

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
PRO Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

Smurfit-Stone Container Enterprises, Inc.
Hopewell, Virginia
Permit No. PRO-50370

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Smurfit-Stone Container Enterprises, Inc. has applied for a Title V Operating Permit for its Hopewell facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____

Date:

QA/QC Engineer:_____

Date:

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I. Facility Information

Permittee/Facility

Smurfit-Stone Container Enterprises, Inc.
Hopewell Mill
910 Industrial Street
Hopewell, Virginia 23860

Responsible Official

Mr. Charles Bogatie
General Manager

Contact Person

Mr. Kai Simonsen
Environmental Supervisor
(804) 541-9695

AIRS Identification Number: 51-670-0003

Facility Description: SIC Code 2631- Paperboard Mills and 2611 – Pulp mills, including those producing paperboard.

The facility produces liner board using wood chips and the Kraft process, and also using recycled fiber. Kraft sulfate turpentine and tall oil are co-produced at this facility. Additionally, the boiler on site and the recovery furnace are used as a cogeneration facility, which sells excess power to the local utility.

The facility is a Title V major source of SO₂, NO_x, PM₁₀, VOC, CO, TRS, H₂S, sulfuric acid mist, methanol (67-56-1), acetaldehyde (75-07-0), formaldehyde (50-00-0), hydrogen chloride (7647-01-0), and for total hazardous air pollutants. This source is located in a nonattainment area for ozone (NO_x and VOC) and is a PSD major source. Portions of the facility were previously permitted under a PSD permit issued on April 2, 1984. This permit was subsequently modified using the minor source permitting regulations. The modified permit was issued on July 29, 1999 and superseded by a permit issued on June 5, 2000. The facility has a RACT agreement, which was formalized in a Consent Agreement dated May 30, 1996.

II. Emission Units

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Wood Yard Process Area							
WY-01	fug	Paved and unpaved road vehicle traffic					
WY-02	fug	chip scalping and screening	181 tons/hr wood chips				
Pulp Mill Process Area							
HW-PUM2-V037		2 - Batch Digester Systems (10/1953)	3,000 cubic feet, each (36,000 cubic feet total)	Lime Kiln/ Coal/Bark Boiler	HW-CRP2-SO22 HW-PSG2-S022	VOC (98%) HAP (98%)	40 CFR 63 Subpart S
		7 - Batch Digester Systems (10/1955)					
		1 - Batch Digester System (12/1984)					
		1 - Batch Digester System (6/1985)					
		1 - Batch Digester System (8/1986)					
HW-PUM1-A030		Brown Stock Washer System <3/17/1972	15 BODTP/h 450,000 ADTP/yr				6/5/2000 40 CFR 63 Subpart S and RR
Recausticizing Area							
HW-CRP2-SO22	HW-CRP2-SO22	Lime Kiln <3/17/72		Airpol scrubber ESP	HW-CRP2-CD022 HW-CRP2-CD022P	PM (98%) PM (98%)	40 CFR 63 Subpart MM
HW-CRP1-V016	HW-CRP1-V016	Slaker 1967		Dorr Oliver wet scrubber	HW-CRP1-CD016	PM(75%)	
HW-CRP1-V017	HW-CRP1-V017	Slaker 1976		Dorr Oliver wet scrubber	HW-CRP1-CD017	PM(75%)	
HW-CRP1-V999		Recausticizing Process Area					
HW-CRP1-S030	HW-CRP1-S030	Lime storage silo		Indusco Baghouse	HW-CRP1-CD030	PM(99%)	
Chemical Recovery Process Area							
HW-PSG4-V999	HW-PSG4-S999	18 black liquor storage tanks	8,182,880 gallons combined				
HW-PSG4-V027	Chrsv-01	Heavy black liquor storage tanks (1979)	383,880 gallons				
HW-PSG4-S999A	HW-CRP2-S022/ HW-PSG2-S022 19(a) 19(b)	Multiple Effect Evaporators (MEEV) and High Solids Crystallizers (2001)	897,000 lbs water /hour	Lime Kiln/ Coal/bark boiler	Lime Kiln HW-CRP2-S022 Coal/bark boiler HW-PSG2-S022	VOC (98%) HAP (98%) TRS (99%)	6/5/2000 40 CFR 60 Subpart BB 40 CFR 60 Subpart S and RR
HW-PSG4-S013	Chrsv-03	Black liquor recovery furnace (1980)	788 mmbtu/hr	Electrostatic Precipitator	HW-PSG4-CD013	PM (99.7%)	6/5/2000 40 CFR 60 Subpart BB

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
			62 tons dry virgin black liquor solids/hr	Sulfidity control	N/A	SO ₂ (no CE since is pollution prev)	40 CFR 63 Subpart MM
				Indirect contact/combustion control	N/A	TRS (no CE since is pollution prev)	
HW-PSG4-S018	Chrsv-04	Smelt dissolving tank (1980)	62.5 tons virgin dry black liquor solids/hr 2.9 VDBLS/day	Wet scrubber	HD-PSG4-CD018	PM (97.7%) TRS(20%)	6/5/2000 40 CFR 60 Subpart BB 40 CFR 63 Subpart MM
HW-PSG4-S999B	HW-PSG4-S999BS	Soap Skimmer (2001)	7,119 lbs dry soap per hour				6/5/2000
18		Cooling Tower (2001)	24,000 gal/min				6/5/2000
		Zero Emission Weak Black Liquor Filter					CA 5/30/1996
Co-Product Recovery Process Area							
HW-CT01-V009	HW-CT01-V009	Tall oil batch reactor <3/17/1972	22,500 tons crude tall oil/year	Packed tower wet scrubber	HW-CT01-CD009	VOC (20.5%)	CA dated 5/30/96
HW-CST1-V001A		Turpentine Condenser/Decanter Tank (1951)	11,657 gallons capacity 450,000 gallons/yr				6/5/2000 40 CFR 63 Subpart S and Subpart RR
HW-CST1-V001B		Turpentine Storage (1951)	27,727 gallons capacity				6/5/2000 40 CFR 63 Subpart S and Subpart RR
19		Low volume high concentration non-condensable gas collection and conveying system (2001)	60,000 actual ft/hr at 130°F 1,970 lbs/hr	Control Valve	19(a)/19(b)	HAP containing NCG (max 1% venting)	6/5/2000 40 CFR 60 Subpart BB 40 CFR 63 Subpart S and Subpart RR
21		UNOX Feed tank (2001)	85,000 gallons 7.2 lb HAP/ODTP				6/5/2000 40 CFR 63 Subpart S and Subpart RR
HW-CST01-V997		Settling Tank	19,900 gallons				
HW-CT01-V999		Co-product recovery process area (excluding tall oil batch reactor)	450,000 gallons/yr				
Paper Mill Process Area							
HW-PAM1-F031	HW-PAM1-F031	Batch cleaning operation for paper machine (1953)					

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date	
HW-PAM1-S001	HW-PAM1-S001	Paper machine vacuum pump-Flume <1972						
HW-PAM1-S001/S002	HW-PAM1-S002	Paper machine vacuum pumps including separator and UHLE Box <1972						
HW-PAM1-S011	HW-PAM1-S011	Wet End (Fourdrinier) (1980)						
HW-PAM1-S012	HW-PAM1-S012	Paper machine press section (1980)						
HW-PAM1-S016	HW-PAM1-S016	Dryer hood (1953)						
HW-PAM1-S999	HW-PAM1-S999	Paper mill process area						
HW-PAM1-V998	HW-PAM1-V998	High density storage chests (2) (1959)	1,592,000 gallons combined					
Power Generation Process Area								
HW-PSG2-S022/S006	HW-PSG2-S022	B&W Coal/bark boiler	Coal	755 million BTU/hr	Environmental Elements Electrostatic Precipitator Sulfur content limit on Coal of 1.2% Off-Stoichiometric firing with secondary air	HW-PSG2-CD022 N/A (pollution prevention) N/A (work practice)	PM (99.5%) SO ₂ (no CE since PP) NO _x (no CE since work prac)	6/5/2000 40 CFR 60 Subpart D
			Coal/Wood Residue	846 million BTU/hr				
			Wood Residue	443 million BTU/hr				
HW-PSG2-F002, F003, F004		Coal Handling Equipment (coal crusher, various conveyors, and coal silos) (1980)	400 tons coal/hr					
HW-PSB3-F001, F002, F003	HW-PSB3-F001, F002, F003	Cooling Tower (1980)	23,000 GPM					
Miscellaneous Sources								
HW-MNT1-F007	Fugitive	Parts Cleaner-Truck Shop Klear-Flo J-80 (>3/17/1972)	50 gallons					
HW-MNT1-F008	Fugitive	Parts Cleaner-Machine Shop Klear-Flo J-80 (>3/17/1972)	50 gallons					
HW-GAS1-F001	Fugitive	Gasoline Storage and Dispensing (1992)	2000 gallons 8000 gallons/yr					

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
HW-URD1-F001	Fugitive	Unpaved road fugitive emissions (w/o woodyard)					
HW-MNT1-F009	Fugitive	Parts Cleaner-Mill Maintenance Shop Kleer-Flo J-80 (>3/17/1972)	50 gallons				
PWR-10	PWR-10	6 - Fuel Oil Storage Tanks (1995)	266,000 gallons, total				

The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.

Abbreviations: ADTP = Air Dry Tons of Pulp
 ADTFP = Air Dry Tons of Finished Product
 CA = Consent Agreement

III. EMISSIONS INVENTORY

A copy of the 2003 emission inventory is attached as Attachment A. Emissions are summarized in the following tables.

2003 Actual Emissions

	Criteria Pollutant Emission in Tons/Year					
Emission Unit	VOC	CO	SO ₂	PM ₁₀	TRS	NO _x
Recovery Furnace	51.2	1817.5	693.9	14.0	2.6	330.4
Combination Boiler	174.3	1685.5	1329.9	27.1		1099.9
Smelt Tank	15.3		3.3	28.4	2.7	6.9
Lime Kiln	8.0	16.5	49.5	114.3	8.3	141.3
Slaker Mix Tanks	0.2			48.7		
Green Liquor Dregs Filter	1.7					
Lime Mud Washers	2.2					
Lime Mud Filter	1.4					
Green Liquor Clarifier	1.7					
Recaustizing area fug emissions	0.08	0.1	0.04	1.6	0.04	1.4
Pad Clarifier	1.3					
Brown Stock Washers	25.1				16.5	
Weak Black Liquor Filter	0.0					
BSW Foam/Filtrate Tanks	11.1					

	Criteria Pollutant Emission in Tons/Year					
Emission Unit	VOC	CO	SO ₂	PM ₁₀	TRS	NO _x
Crude Tall Oil Manufacturing	0.4				1.0	
Solvent emissions-Batch	5.3					
Parts Cleaning	0.05					
Fourdrinier paper Machine	4.9					
Paper Machine Press Vents	19.5					
Paper Machine Dryer Hoods	43.2					
Paper Machine Vacuum Pumps	14.1					
Balck Liquor Soap Skimmers	0.2					
Woodyard				27.0		
Road not in woodyard				59.0		
Salt Cake Unloading System				0.5		
Coal Storage and Handling				0.02		
Cooling Tower #1				7.0		
Cooling Tower #2				5.2		
Gasoline Storage and Transfer	0.1					
High Density Storage Chests	0.1					
Fugitives from Storage Chests	22.5					
Coal Storage and Handling						
Total	405.93	3519.6	2076.64	332.82	31.14	1579.9

2003 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emission in Tons/Year
Trichloroethylene	0.18
Acetaldehyde	38.0
Acrolein	0.91
Arsenic Compounds	0.21
Bezene	6.37
Cadmium Compounds	0.03

Chlorine	0.95
Chlorobenzene	0.01
Chloroform	0.23
Carbon Monoxide	3,519.82
Chromium Compounds	0.05
Cresols/Cresylic acid	0.02
Carbon disulfide	0.05
Carbon tetrachloride	0.37
Ethylidene dichloride	0.02
Ethylene chloride	1.7
Formaldehyde	10.17
Hydrogen sulfide	16.52
Hydrochloric Acid	64.06
Hydrogen fluoride	6.26
Mercury Compounds	0.02
Methylene chloride	2.83
Manganese compounds	2.07
Methyl isobutyl ketone	11.5
Methyl ethyl ketone	6.37
Methanol	398.23
m-Xylene	0.04
Ammonia	38.86
Hexane	1.03
Nickel Compounds	0.04
Nitrogen dioxide	1,580.13
Naphthalene	3.26
Lead	0.86
Perchloroethylene	0.15
Phenol	0.01
Particulate Matter	566.23
Particulate Matter ≤ 10	333.30
Particulate Matter ≤ 2.5	237.7
Propionaldehyde	0.01
p-xylene	0.02
Antimony Compounds	0.02
Selenium Compounds	0.18
Sulfur dioxide	2,076.89
Styrene	1.18
Methyl chloroform	0.01
Trichloroethane	6.99
Trichlorobenzene	28.4
Tolunene	1.29
Total Reduced Sulfur	31.38
Volatile Organic Compounds	405.42
Xylenes	2.06

IV. FACILITY WIDE APPLICABLE REQUIREMENTS

A. Requirements by Reference

1. Except where this permit is more restrictive than the applicable requirement, all applicable MACT DDDDD equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart DDDDD by the dates specified in 40 CFR 63, Subpart DDDDD.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
2. Except where this permit is more restrictive than the applicable requirement, all applicable MACT S equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart S by the dates specified in 40 CFR 63, Subpart S.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
3. Except where this permit is more restrictive than the applicable requirement, all applicable MACT MM equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart MM by the dates specified in 40 CFR 63, Subpart MM.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
4. Except where this permit is more restrictive than the applicable requirement, all applicable MACT Subpart RR equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart RR.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
5. Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart Y equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart Y.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
6. Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart BB equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart BB.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)
7. Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart D equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart D.
(9 VAC 5-60-90, 9 VAC 5-60-100 and 9 VAC 5-80-110)

B. Limitations

1. The kraft pulp mill shall produce no more than 450,000 tons of air dried unbleached kraft pulp (10% by weight moisture content) per year, calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-80-110, Condition #25 of 06/05/2000 permit, and Section D, #6, CA dated 05/30/1996)

2. No violation of applicable emission standards or monitoring requirements shall be judged to have taken place if the excess emissions or cessation of monitoring activities is due to a malfunction, provided that the permittee has taken expedient and reasonable measures to minimize emissions during the breakdown period; the permittee has taken expedient and reasonable measures to correct the malfunction and return the facility to a normal operation, and the source is in compliance at least 90% of the operating time over the most recent 12 month period.
(9 VAC 5-80-110, Condition #31 of 06/05/2000 permit, and Section E, #6, CA dated 5/30/1996)
3. The permittee shall install or continue to operate those technologies deemed to be RACT in a manner consistent with the consent agreement dated 05/30/1996. If the permittee plans to modify the control equipment or method in a manner that will result in a decrease in VOC reduction efficiencies below those defined in the consent agreement dated 05/30/1996 in paragraphs E.2, E.3, E.6, and E.8, (Conditions VI.A.10, IV.A.7, VII.A.3. and VII.A.3 respectively). The permittee shall submit a request for a revision of the agreement to the Director, Piedmont Regional Office.
(9 VAC 5-80-110 and Section E, #14, CA dated 05/30/1996)
4. Should the permittee plan any changes within the context of the new source review program to the control technologies or methods described as RACT in the agreement dated 05/30/1996, the permittee shall have the right to apply to the Board for a new source review permit, and the Board may consent to such changes, provided such changes will meet all of the new source review permit program regulatory requirements in existence at that time.
(9 VAC 5-80-110 and Section E, #17, CA dated 05/30/1996)
5. Emissions from the operation of each piece of equipment listed below shall not exceed the limitations specified below:

	<u>Particulate TSP/PM₁₀</u>	<u>Nitrogen Oxides NO_x</u>	<u>Sulfur Dioxide SO₂</u>	<u>Total Reduced Sulfur TRS</u>	<u>Volatile Organic Compounds VOC</u>	<u>Carbon Monoxide CO</u>
Coal/Bark boiler HW-PSG2-S022	318.9 tpy	2,190.0 tpy	3801.8 tpy			
Coal/Bark boiler (non-condensable gas thermal oxidation)		1.4 tpy	22.2 tpy	0.1 tpy	8.0 tpy	14.2 tpy
Black liquor recovery boiler HW-PSG4-S013	300.9 tpy		2,768.2 tpy	21.0 tpy		
Smelt dissolving tank HW-PSG4-S018	54.8 tpy			4.8 tpy		
MEEV/Crystallizer HW-PSG4-S999					3.5 tpy	
Soap Skimmer HW-				0.4 tpy	0.4 tpy	
Induced draft cooling tower HW-PSB3-F	8.8 tpy					

(9 VAC 5-80-110, 9 VAC 5-50-260, and Condition #21 of 06/05/2000 permit)

The periodic monitoring for this condition is listed in the Emissions Limitation Demonstration of this statement of basis.

6. The permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The plan shall identify all routine or otherwise predictable continuous monitoring system malfunctions. This plan shall be developed and implemented by the permittee for all applicable equipment in accordance with all applicable MACTs by the appropriate compliance dates. The purpose of the startup, shutdown, and malfunction plan is to:
 - a. Ensure that, at all times, the permittee operates and maintains affected sources, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by the relevant standard.
 - b. Ensure that the permittee is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
 - c. Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).(9 VAC 5-80-110 and 40 CFR 63.6(e)(3))
7. During periods of startup, shutdown, and malfunction, the owner or operator of an affected source shall operate and maintain such source (including associated air pollution control equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under Condition IV.B.6.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(ii))
8. The Director, Piedmont Region may require that the permittee make changes to the startup, shutdown, and malfunction plan if the plan:
 - a. Does not address a startup, shutdown, or malfunction event that has occurred;
 - b. Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this permit; or
 - c. Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(vii))
9. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the permittee developed the plan, the permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment. The permittee shall send one copy of any revision to the Director, Piedmont Region within 30 days of finalizing the revision.
(9 VAC 5-80-110 and 40CFR 63.6(e)(3)(viii))

C. Monitoring

1. Each owner or operator subject (for those pieces of equipment subject to 40 CFR 63, Subpart S) to the standards specified in §§63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.466(c), (d), and (e), 63.447(b) or §63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system as specified in paragraphs (b) through (m) of 40 CFR

63.453, except as allowed in paragraph (m) of 40 CFR 63.453. The CMS shall include a continuous recorder.

(9 VAC 5-80-110 and 40 CFR 63.453(a))

2. The permittee shall operate each control device subject to the monitoring provisions of 40 CFR 63.453 (equipment numbers HW-PUM2-V037, HW-PSG4-S999, HW-CST1-V001C, 19, 20, and 21) in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under 40 CFR 63.453(a) through 40 CFR 453(n). Except as provided in 63.453(p), 63.443(e), or 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under 40 CFR 63 Subpart S or failure to perform procedures required by 40 CFR 63 Subpart S shall constitute a violation of the emission standard and be reported as a period of excess emissions.
(9 VAC 5-80-110 and 40 CFR 63.453(o))
3. All continuous monitoring systems required under Subparts D and BB shall be subject to 40 CFR 60.13 upon promulgation of the performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60. This condition specifically applies to the NO_x monitor, SO₂ monitor, diluent monitors, and opacity monitor on the coal/bark boiler (HW-PSG2-S022) and the opacity, diluent, and TRS monitors on the recovery furnace (HW-PSG4-S013)
(9 VAC 5-80-110 and 40 CFR 60.13(a))
4. The permittee shall check the zero (or low level value between 0 and 20% of span value) and span (50 to 100% of span value) calibration drifts on the continuous monitoring systems of the coal/bark boiler (HW-PSG2-S022) and the recovery furnace (HW-PSG4-S013) at least once daily in accordance with a written procedure. The zero and span shall, as a minimum be adjusted whenever the 24 hour zero drift or 24 hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B of 40 CFR 60. The system must allow the amount of excess zero and span drift measured at the 24 hour interval checks to be recorded and quantified. For continuous monitoring systems measuring the opacity of emissions from the coal/bark boiler (HW-PSG2-S022) and the recovery furnace (HW-PSG4-S013), the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(1))
5. Minimum procedures for continuous monitoring systems measuring opacity of emissions from the coal/bark boiler (HW-PSG2-S022) and the recovery boiler (HW-PSG4-S013) shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(2))

6. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required, all continuous monitoring systems on the coal/bark boiler (HW-PSG2-S022) and the recovery furnace (HW-PSG2-013) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:
 - a. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10 second period and one cycle of data recording for each successive 6 minute period.
 - b. All continuous monitoring systems for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.(9 VAC 5-80-110 and 40 CFR 60.13(e))
7. All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR 60 Appendix B of this part shall be used.
(9 VAC 5-80-110 and 40 CFR 60.13(f))
8. For the continuous emission monitoring systems monitoring the coal/bark boiler (HW-PSG2-S022) and the recovery furnace (HW-PSG4-S013), the permittee shall reduce all data from continuous monitoring systems for measurement of opacity to 6 minute averages and for continuous monitoring system other than opacity to 1 hour averages. Six minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6 minute period. For continuous monitoring systems other than opacity, 1 hour averages shall be computed from four or more data points equally spaced over each 1 hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in 40 CFR 60. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1% opacity).
(9 VAC 5-80-110 and 40 CFR 60.13(h))

D. Record Keeping

1. The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:
 - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for all equipment emitting air pollutants and all air pollution control equipment;
 - b. maintain an inventory of spare parts;
 - c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum;
 - d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training, and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-80-110 and Condition #52 of 06/05/2000 permit)

2. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facilities for Subparts D and BB of 40 CFR 60 (equipment numbers HW-PSG2-S022, HW-PSG4-S013, HW-PSG4-S999, and HW-PSG4-S018); any malfunction of the air pollution control equipment (equipment numbers HW-PSG4-CD999, HW-PSG2-S022, HW-PSG4-CD014, HW-PSG4-CD018, and HW-PSG2-CD022), or any periods during which a continuous monitoring system or monitoring device is inoperative.
(9 VAC 5-80-110 and 40 CFR 60.7(b))
3. When actions taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the permittee shall keep records for that event that demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist or other effective form of record keeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the permittee shall keep records of these events as required in Condition IV.F3, including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction are consistent with the permittee's startup, shutdown and malfunction plan in the semiannual startup shutdown and malfunction report required in Condition IV.F4.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(iii))
4. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports and records.
(9 VAC 5-80-110 and 40 CFR 60.7(f))
5. The permittee shall keep the written startup, shutdown, and malfunction plan on record after it is developed to be made available for inspection, upon request, by the Director, Piedmont Region for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR 63. In addition, if the startup, shutdown, and malfunction plan is revised, the permittee shall keep previous (i.e. superseded) versions of the startup, shutdown, and malfunction plan on record, to be made available for inspection, upon request, by the Director, Piedmont Region, for a period of 5 years after each revision to the plan.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(v))
6. The permittee shall maintain a file containing all emission factors, rated capacities, and formulas used to show compliance with the limitations listed in Condition IV.B5.
(9 VAC 5-80-110)

E. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Test ports shall be provided at the appropriate locations.
(9 VAC 5-80-110)

F. Reporting

1. The permittee shall submit excess emissions and monitoring systems performance reports and/or summary report forms to the Director, Piedmont Region, semiannually. All reports shall be postmarked by the 30th day following the end of each six month period. Written reports of excess emissions and summary report forms shall contain the information and be in the format required by 40 CFR 60.7.
(9 VAC 5-80-110 and 40 CFR 60.7)
2. If an action taken by the permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall record the actions taken for that event and shall report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with § 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(iv))
3. The permittee subject to the provisions of 40 CFR 63 shall maintain files of all information (including all reports and notifications) recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche. The permittee shall maintain relevant records of:
 - a. The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);
 - b. The occurrence and duration of each malfunction of the air pollution control equipment;
 - c. All maintenance performed on the air pollution control equipment;
 - d. Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the startup, shutdown, and malfunction plan required in Condition IV.B.6.
 - e. All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan required in Condition IV.B.6 when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in the plan. The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a checklist or some other effective form of record keeping, in order to minimize the record keeping burden for conforming events.
 - f. Each period during which a continuous monitoring system is malfunctioning or inoperative;
 - g. Results of all performance tests, continuous monitoring system evaluations, and opacity and visible emission observations;
 - h. All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
 - i. All continuous monitoring system calibration checks;
 - j. All adjustments and maintenance performed on continuous monitoring systems;
 - k. All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

(9 VAC 5-80-110 and 40 CFR 63.10(b))

4. If actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the permittee's startup, shutdown, and malfunction plan, the permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter containing the name, title and signature of the permittee or other responsible office who is certifying its accuracy that shall be submitted to the Director, Piedmont Region semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half.

(9 VAC 5-80-110 and 40 CFR 63.10(d)(5)(i))

5. Any time an action taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the startup, shutdown, and malfunction plan, the permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required here shall consist of a telephone call (or facsimile transmission) to the Director, Piedmont Region within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the permittee or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parametric monitoring exceedances are believed to have occurred.

(9 VAC 5-80-110 and 40 CFR 63.10(d)(5)(ii))

6. The permittee shall report semiannually the following information:

- a. Periods when the production rate of air dried tons of pulp exceeds the limitation in Condition IV.B1.
- b. Periods when an emissions unit is not in compliance at least 90% of its operating time with any standard.

(9 VAC 5-80-110)

7. The permittee shall establish dates, update dates, and report the dates for the milestones to achieve compliance with 40 CFR 63 Subpart S. This information shall be updated every two years after April 15, 1999. This information shall be a non-binding control strategy report containing, at a minimum, the information required in 40 CFR 63.9 and the following information:

- a. A description of the emission controls or process modifications selected for compliance with the control requirements in 40 CFR 63 Subpart S;
- b. A compliance schedule, including the dates by which each step toward compliance will be reached for each emissions point or sets of emissions point. At a minimum, the list of dates shall include:
 - (i) The date by which the major study(s) for determining the compliance strategy will be completed.
 - (ii) The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes.
 - (iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;

- (iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;
- (v) The date by which final compliance is to be achieved;
- (vi) The date by which the final compliance tests will be performed.

Revisions or updates shall be made to the control strategy report required by this condition indicating the progress made towards completing the installation of the emission controls or process modifications during the 2 year period.
(9 VAC 5-80-110 and 40 CFR 63.440(d)(1), 40 CFR 63.455(b))

Streamlined Conditions – None identified for this section.

V. PULP MILL PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the Batch digester systems (HW-PUM2-V037) and the Brown stock washer system (HW-PUM1-A030) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
2. The Batch digester systems (HW-PUM2-V037) shall emit no more than 5 ppm TRS by volume on a dry basis, corrected to 10% oxygen.
(9 VAC 5-40-1690 A. 2)
3. Achievement of the emission standard listed in Condition IV.A.2 shall be by combustion of gases in a lime kiln subject to 9 VAC Chapter 40, part II, Article 13 (HW-CRP2-S022) or a device which is not subject to the provisions of 9 VAC Chapter 40, Part II, Article 13 and which is subjected to a minimum temperature of 1200° F for at least 0.5 seconds (HW-PSG2-S022).
(9 VAC 5-40-1690 B, 9 VAC 5-40-1700 1 & 2.)

The digesters are subject to the standard described above and the gases are collected and routed to the lime kiln, which is subject to Part II, Article 13. As a back up, the gases may also be routed to the combination boiler, which does have a temperature of 1200° F and a residence time of at least 0.5 degrees. Ensuring that the gases are routed to the lime kiln or coal/bark boiler will be sufficient to ensure that the digesters meet the 5 ppm standard, and no other periodic monitoring is necessary.

4. The pulping process condensate from the Batch digester systems (HW-PUM2-V037) shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified under 40 CFR 63.446(d)(1) and (2).
(9 VAC 5-80-110 and 40 CFR 63.446(c))
5. The pulping process condensate from the Batch digester systems (HW-PUM2-V037) shall be treated according to one of the options under 40 CFR 63.446(e)(1) through (5).
(9 VAC 5-80-110 and 40 CFR 63.446(c))
6. As an alternative to the requirements to the requirements specified in §63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below 40 CFR 63.447, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).
(9 VAC 5-80-110 and 40 CFR 63.447)

7. RACT for the weak black liquor filter within the pulp mill area of the Hopewell Mill shall be use of a no-emissions filter. The no-emissions filter shall be designed, installed, operated, and controlled in such a manner as to eliminate emissions.
(9 VAC 5-80-110 and Section E #3, CA dated 05/30/96, 9 VAC 5-40-300)

This condition has been changed slightly to read that there will be no emissions from the weak black liquor filter. The reason for this change is that this condition is obsolete since the facility has complied with the timeline for installation. The new filter is currently in operation. However, the RACT still has the requirement that this piece of equipment should have no emissions.

8. RACT for VOC sources within the pulp mill area of the Hopewell Mill, excepting the weak black liquor filter and the contributors to the non-condensable gas system, shall be no additional controls. Stone Container shall continue to operate the pulp mill area in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices.
(9 VAC 5-80-110 and Section E #4, CA dated 05/30/96, 9 VAC 5-40-300)

Monitoring – None identified for this section.

Record Keeping - None identified for this section.

Testing – None identified for this section.

Reporting - None identified for this section.

Streamlined Requirements

RACT CA, 5/30/96: The permittee shall install the new weak black liquor filter described in Section E, Condition 3 of the CA dated 5/30/96 in a manner consistent with the December, 1997, time frame submitted in the RACT determination document dated January 18, 1996. The Hopewell Mill shall submit to the Director, Piedmont Regional office, information identifying the date of beginning actual construction, the date construction is completed, and the date of start-up of the filter within 10 days of these dates.
Section E, Condition 13, CA dated 5/30/96

This condition is obsolete since the weak black liquor filter was installed prior to December 1997 and is operating based on information from the source.

Condition #7 4/2/1984 Emissions from the operation of the brown stock washer shall not exceed the Permit: limitations specified below:
TRS 4.5 lbs/hr 18.9 tpy
SO₂ 311 lbs/hr

The July 29, 1999 permit superseded the April 2, 1984 permit. The permit that was written in 1999 did not include the above condition. This is believed to have been an oversight since there is no documentation in the engineering analysis that explains why this condition was left out. Documents provided by the facility in a letter dated May 5, 2005 have shown that the limits above are not representative of what the emissions are for the brown stock washer. Although there is no documentation from the state or EPA that states this condition should be removed from the permit this condition is being streamlined based on documentation that was provided by the facility along with the fact that the condition was superseded.

VI. RECAUSTICIZING PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the recausticizing process area (HW-CRP-V999) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
 (9 VAC 5-50-80 and 9 VAC 5-80-110)
2. Visible emissions from the lime kiln (HW-CRP2-S022) and the lime storage silo (HW-CRP1-S030) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity. Failure to meet this requirement because of the presence of water vapor shall not be a violation.
 (9 VAC 5-40-80 and 9 VAC 5-80-110)
3. Visible emissions from the lime kiln (HW-CRP1-S022) shall comply with the following compliance provisions:
 - a. Corrective action, as specified in the startup, shutdown, and malfunction plan shall be implemented when the average of ten consecutive 6-minute averages exceed 20% opacity.
 - b. A violation of 40 CFR Subpart MM occurs when opacity is greater than 20% for 6% or more of the operating time within any quarterly period.

(9 VAC 5-40-110, 40 CFR 63.864(k)(1)(i))

4. The permittee shall not cause or permit to be discharged into the atmosphere from any group of similar affected facilities specified below any particulate emissions in excess of the following limits:

Lime kiln:	1.00 lbs particulate/equivalent ton of air dried pulp
HW-CRP2-S022	0.064 grains/dry standard cubic foot corrected to 10% O ₂

Slaker tank units:	0.30 lbs particulate/equivalent ton of air dried pulp
HW-CRP1-V016	
HW-CRP1-V017	

(9 VAC 5-80-110, 9 VAC 5-40-1680, and 40 CFR 63.862(a))

5. Emissions from the operation of the lime storage silo (HW-CRP1-S030) shall not exceed the limits specified below:

PM/PM ₁₀	44.8 lb/hr	196.4 ton/yr
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(9 VAC 5-80-110 and 9 VAC 5-40-260)

6. To achieve the standards in condition V.A.4 the particulate emissions in the lime kiln exhaust shall be controlled by an electrostatic precipitator and a scrubber. The ESP shall be equipped with a continuous opacity monitoring system. The scrubber shall be equipped with a flow meter and a device to continuously measure the differential pressure through the scrubber. The ESP and the scrubber shall be provided with adequate access for inspection.
 (9 VAC 5-80-110, 9 VAC 5-40-1680, 40 CFR 63.864(d), and 40 CFR 63.864(e))
7. To achieve the standard of 0.3 lbs particulate/equivalent ton of air dried pulp, the particulate emissions in the slaker tanks exhaust shall be controlled by wet scrubbers, equipment numbers HW-CRP1-CD016 and HW-CRP1-CD017. The scrubbers shall be equipped with flow meters and devices to continuously measure the differential pressure

through the scrubber. The scrubbers shall be provided with adequate access for inspection.

(9 VAC 5-80-110 and 9 VAC 5-40-1680)

The above two conditions allow the facility to meet the requirements in 9 VAC 5-40-1680. Rule 4-13 gives no compliance demonstrations for meeting the particulate standard. Therefore, the control devices used to meet the standard were listed in the Title V permit with a citation of 9 VAC 5-40-1680 since this citation is the underlying reason for the scrubbers' being in place. The tanks could not meet the particulate standard without some type of control device.

8. The permittee shall not cause or permit to be discharged into the atmosphere from any kraft wood pulping operation unit specified below any total reduced sulfur emissions in excess of the following limits:

Lime kilns: 20 ppm by volume on a dry basis, corrected to 10% O₂
(9 VAC 5-80-110 and VAC 5-40-1690 A.4.)

9. The control method used by the permittee to achieve the standard listed in Condition VI.A.8 shall be combustion of gases in a lime kiln subject to Rule 4-13 or combustion of gases in equipment or a device that is not subject to the provisions of this rule and that is subjected to a minimum temperature of 1200°F for at least 0.5 seconds (the combination boiler, equipment number HW-PSG2-S022).
(9 VAC 5-80-110 and 9 VAC 5-40-1700 1. and 2.)
10. RACT for the chemical recovery area of the Hopewell Mill is deemed to be no additional controls. Stone Container will continue the practice of using city/river water as the sole source of make-up water in the Chemical Recovery area. Equipment using city/river water make-up consist of the dregs filter and vacuum pump (HW-CRP1-V026), the pad clarifier and u-drains, the lime mud pre coat filter and vacuum pump (HW-CRP1-V023) and the scrubber for the lime kiln (HW-CRP2-S022).
(9 VAC 5-80-110 and Section E, #2, CA dated 05/30/96, 9 VAC 5-40-300)

B. Monitoring

1. The permittee shall install, certify, maintain, and operate continuous monitoring equipment to monitor and record the concentration of TRS emissions on a dry basis and the percentage of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the lime kiln (HW-CRP2-S022). The location of each monitoring system must be approved by the board.
(9 VAC 5-80-110 and 9 VAC 5-40-1770 B 1)
2. The permittee shall install, calibrate, maintain, and operate a monitoring device which measures the combustion temperature at the point of incineration of effluent gases which are emitted from the lime kiln (HW-CRP2-S022). The monitoring device is to be certified by the manufacturer to be accurate within 1.0% of the temperature being measured.
(9 VAC 5-80-110 and 9 VAC 5-40-1770 B 2)
3. The permittee shall develop and implement a quality assurance plan. At a minimum the plan shall provide for daily calibration drift checks, periodic preventive maintenance, and annual audits. Section 3 of Procedure 1 of Appendix F of 40 CFR 60 may be used as a guide by which to pattern the plan.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 D)
4. The minimum data capture and validity requirements for the TRS monitor on the lime kiln (HW-CRP2-S022) shall be as follows:

- a. Valid TRS and O₂ data shall be obtained for no less than 75% of the operating hours of each quarter. Section 4 of Procedure 1 of Appendix F of 40 CFR 60 shall be used to determine valid data.
 - b. For TRS or O₂ concentrations, a valid data hour shall have at least 50% valid readings.
 - c. A 24 hour average TRS or oxygen concentration shall be considered valid if at least 50% of the operating hours in the 24 hour period are valid data hours.
 - d. Valid temperature data shall be obtained for no less than 90% of the operating time of each quarter.

(9 VAC 5-80-110 and 9 VAC 5-40-1770 C)
5. The owner or operator of a lime kiln equipped with an ESP must install, calibrate, maintain, and operate a continuous opacity monitoring system except during periods of startup, shutdown, and malfunction. The COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
(9 VAC 5-80-110 and 40 CFR 63.864(d))
6. Visible emissions observations shall be conducted for the recausticizing process area (HW-CRP-V999) and the lime storage silo (HW-CRP1-S030) at least monthly during periods of normal facility operation for a sufficient time interval to determine if there are any above normal visible emissions. If above normal visible emissions are observed, a visible emissions evaluation (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9 shall be conducted. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until a total of sixty minutes of observation has been completed. A Method 9 evaluation shall not be required if the visible emissions condition is corrected in a timely manner such that no above normal visible emissions are present; the emissions unit is operating at normal operating conditions; and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110)
7. The permittee shall monitor and record the differential pressure and the flow rate of the scrubber controlling the slaker tanks and the flow rate of the scrubber controlling the lime kiln once per shift. Corrective action shall be implemented when any 3-hour average parameter value is outside the range of values approved by DEQ that are established from past test data.
(9 VAC 5-80-110)

C. Record Keeping

1. The permittee shall calculate and record on a daily basis the 24-hour average TRS concentration for each operating day for the lime kiln. Each 24 hour average shall be determined as the arithmetic mean of the appropriate 24 contiguous 1 hour average TRS concentrations provided by the continuous monitoring system installed under 9 VAC 5-40-1770 B 1 (Lime kiln monitoring system) and Condition VI.B.1.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 B 1)
2. The permittee shall calculate and record on a daily basis the 24-hour average O₂ concentration for each operating day for the lime kiln (HW-CRP2-S022). These 24-hour averages shall correspond to the 24 hour average TRS concentration required under Condition VI.C.1 and shall be determined as an arithmetic mean of the appropriate 24 contiguous one hour average oxygen concentrations provided by the continuous monitoring system installed on the lime kiln.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 B 2)

The recording of the TRS emissions from the lime kiln is sufficient for periodic monitoring for TRS from the lime kiln.

3. The permittee shall correct all 24-hour average TRS concentrations to 10 volume percent oxygen.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 B 3)
4. The permittee shall record continuously on a daily basis the temperature of the point of incineration as well as the periods of operation for each operating day for the lime kiln.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 B 4 & 5)

Showing compliance with the temperature requirement on the lime kiln is adequate for periodic monitoring of the MEEV emission limitations in Condition A.21 and the control requirements in Condition A.17 under the chemical recovery process area.

5. The permittee shall maintain records of any occurrence when corrective action is required and when a violation as noted in Condition V.A.3.
(9 VAC 5-80-110 and 40 CFR 63.866(b))
6. The owner or operator must maintain records of the information in 40 CFR 63.866(c)(1) through 7 in addition to the general records required by 40 CFR 63.10(b)(2)
(9 VAC 5-80-110 and 40 CFR 63.866(c))
7. The permittee shall keep on hand a copy of the most recent compliance tests showing compliance with the particulate emissions limitations on the lime kiln (HW-CRP2-S022) and the slaker tanks (HW-CRP1-V016, HW-CRP1-V017).
(9 VAC 5-80-110 B and 9 VAC 5-80-110 F)

This record keeping requirement is to facilitate the periodic monitoring requirements of these units.

D. Testing

1. A visible emissions evaluation shall be conducted by the permittee on the lime storage silo (HW-CRP1-S030) in accordance with 40 CFR Part 60, Appendix A, Method 9. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the Piedmont Region. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluation shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the Piedmont Region shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. Two copies of the test results shall be submitted to the Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110 and 9 VAC 5-40-20)
2. Once during every five year permit term, the facility shall conduct performance tests for particulate matter from the exhausts of the scrubbers controlling the lime kiln (HW-CRP2-S022) and the slaker tanks (HW-CRP1-V016, HW-CRP1-V017) to determine compliance with the emission limitations listed in Condition VI.A.4 of this permit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests are to be arranged with the Director, Piedmont Region. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall

be submitted to the Director, Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110 B)

E. Reporting

1. The permittee shall report semi annually all 24 hour average TRS concentrations above 20 ppm by volume on a dry basis, corrected to 10% O₂ of the lime kiln (HW-CRP2-S022) and the periods of operation.
(9 VAC 5-80-110 and 9 VAC 5-40-1780 C 2 & 4)
2. The owner or operator must report quarterly the number and duration of occurrences when the source met or exceeded the average of ten consecutive 6-minute averages resulting in a measurement greater than 20% opacity associated with the ESP.
(9 VAC 5-80-110 and 40 CFR 63.867(c))
3. The permittee shall report semi annually all measurements taken from the differential pressure gauges and flow meters associated with lime kiln (HW-CRP2-S022) and the slaker tank scrubbers (HW-CRP1-V016, HW-CRP1-V017) that are excursions as well as all actions taken to rectify the excursion.
(9 VAC 5-80-110)

This condition, combined with the monitoring, record keeping, and testing conditions for the lime kiln and slakers, will suffice for periodic monitoring of the particulate standards from these units.

Streamlined Conditions

9 VAC 5-40-1750 Compliance This section specifies that the facility must submit a control program to achieve compliance with Rule 4-13 as soon as possible, that the use of a steam stripper must be evaluated for RACT, and that the authority for approving control programs was delegated to the executive director.

This section has been achieved in that the facility was issued a consent agreement dated 9/20/89 that stipulated the interim limits and deadlines for compliance. The terms of the agreement were carried out and the facility was in compliance by the October 1, 1994, deadline.

VII. CHEMICAL RECOVERY PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the black liquor storage tanks (HW-PSG4-V999) constructed, modified, or relocated prior to March 17, 1972 or reconstructed prior to December 10, 1976 shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
2. Visible emissions from the black liquor storage tanks (HW-PSG4-V999) constructed modified, or relocated on or after March 17, 1972 or reconstructed on or after December 10, 1976, heavy black liquor storage tanks (HW-PSG4-V027), soap skimmer (HW-PSG4-S999B), and cooling tower (18) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)

3. RACT for the VOC sources within the non-condensable gas system shall be thermal oxidation. This thermal destruction of VOC's shall be accomplished by venting the non condensable gases to the lime kiln while the lime kiln is operating. The lime kiln (HW-CRP2-S022) shall be operated and the non-condensable gases shall be vented in a manner consistent with the requirements of 9 VAC 5-20-180 of the State Regulations for the Control and Abatement of Air Pollution. Stone Container shall continue to operate the lime kiln (HW-CRP2-S022) and the non-condensable gas system in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices.
(9 VAC 5-80-110 and Section E, #6, CA dated 5/30/96, 9 VAC 5-40-300)

This condition does not accurately reflect current operations at the facility. The lime kiln and the combination boiler are both used for the thermal oxidation of the NCG's.

4. The following emissions are estimated from the operation of the soap skimmer:

Volatile Organic Compounds	0.10 lbs/hr
Total Reduced Sulfur	0.09 lbs/hr

(9 VAC 5-80-110, 9 VAC 5-50-260, and condition #20 of 06/05/2000 permit)

5. The approved fuel for the black liquor recovery furnace (HW-PSG4-S013) is black liquor solids. A change in fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and condition #23 of 06/05/2000 permit)
6. The permittee shall not cause to be discharged into the atmosphere from the multiple effect evaporator system (HW-PSG4-S999A) any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10% oxygen, unless the gases are combusted with other waste gases in the coal/bark boiler (HW-PSG2-S022/S006) or the lime kiln (HW-CRP2-S022), which is not subject to 40 CFR 60 Subpart BB, and are subjected to a minimum temperature of 1200 ° F for at least 0.5 seconds.
(9 VAC 5-80-110 and 40 CFR 60.283(a))
7. Particulate emissions from the black liquor recovery furnace (HW-PSG4-S013) shall be controlled by an electrostatic precipitator with a design control efficiency of 99.7%. The electrostatic precipitator shall be oversized to permit a more stable and efficient operation. The electrostatic precipitator shall be provided with adequate access for inspection.
(9 VAC 5-80-110, 9 VAC 5-50-280, #6 of 06/05/2000 permit)
8. Sulfur dioxide emissions from the black liquor recovery furnace (HW-PSG4-S013) shall be controlled by limiting sulfidity during process operations.
(9 VAC 5-80-110, 9 VAC 5-50-280, #7 of 06/05/2000 permit)
9. Total reduced sulfur emissions from the black liquor recovery furnace (HW-PSG4-S013) shall be controlled by process and mechanical methods including indirect heating of the black liquor being fired in the furnace and combustion air control.
(9 VAC 5-80-110, 9 VAC 5-50-280, #8 of 06/05/2000 permit)
10. The black liquor fired in the recovery furnace (HW-PSG4-S013) shall contain no more than 70.2% by weight virgin black liquor solids, calculated as the arithmetic average of all furnace operating days in the previous 365 day period. For each day that liquor is fired, the percent by weight of virgin black liquor solids shall be measured at the exit of the indirect contact liquor heater, and this number shall be included in the calculation to determine the average weight percent of virgin black liquor solids in the liquor. The

permittee shall maintain records of the daily virgin black liquor solids content averages for the period up to the end of the previous calendar week.

(9 VAC 5-80-110 and 9 VAC 5-170-160, #26 of 06/05/2000 permit)

This condition was added to the 7/29/1999 permit to ensure that the facility did not debottleneck the recovery furnace and the rest of the chemical recovery section by increasing the solids content of the black liquor.

11. Emissions from the operation of the black liquor recovery furnace (HW-PSG4-S013) shall not exceed the limitations specified below:

Particulate emissions as determined by Reference Method 5:

0.044 grains/dry standard cubic foot corrected to 8% O₂

68.7 lbs/hr

Sulfur Dioxide as determined by Reference Method 6 or alternative method approved by DEQ:

250 ppm by volume

632.0 lbs/hour

Total Reduced Sulfur as determined by Reference Method 16, Method 16A, or Method 16B

5 ppm by volume on a dry basis corrected to 8% O₂

4.8 lbs/hr

(9 VAC 5-80-110 and 40 CFR 60.282(a), 40 CFR 60.283(a), 9 VAC 5-50-40, 9 VAC 5-50-280, #17 of 06/05/2000 permit)

The grain loading for particulate matter and the TRS standard in ppm are duplicative of the NSPS standards. These have been combined in the Title V permit to show only one condition, with all references listed.

12. Visible emissions from the black liquor recovery furnace (HW-PSG4-S013) shall comply with the following compliance provisions:
- Corrective action, as specified in the startup, shutdown, and malfunction plan shall be implemented when the average of ten consecutive 6-minute averages exceed 20% opacity.

(9 VAC 5-40-110, 40 CFR 63.864(k)(1)(i))

13. Particulate emissions from the smelt dissolving tank (HW-PSG4-S018) shall be controlled by a wet scrubber (HD-PSG4-CD018) with a design control efficiency of 97.7%. The scrubbing liquor shall be weak wash liquor or, if necessary, clean fresh water. The scrubber shall be provided with adequate access for inspection.

(9 VAC 5-80-110 and 9 VAC 5-50-260, #9 of 06/05/2000 permit)

14. Total reduced sulfur emissions from the smelt dissolving tank (HW-PSG4-S018) shall be controlled by a wet scrubber (HD-PSG4-CD018). The scrubbing liquid shall be weak wash liquor or, if necessary, clean fresh water shall be used to control the total reduced sulfur. The scrubber shall be provided with adequate access for inspection.

(9 VAC 5-80-110 and 9 VAC 5-50-260, #10 of 06/05/2000 permit)

15. Emission from the operation of the smelt dissolving tank (HW-PSG4-S018) shall not exceed the limitations specified below:

Particulate emissions as determined by Reference Method 5:

0.2 lbs/ton of dry black liquor solids
12.5 lbs/hr

Total reduced sulfur as determined by Reference Method 16, Method 16A, or Method 16B:

0.0168 lbs/ton of dry black liquor solids
1.1lbs/hour

(9 VAC 5-80-110 and 40 CFR 60.282(a)(2), 9 VAC 5-50-260, #18 of 06/05/2000 permit)

The limitations listed from the NSPS are the same as the limitation in this condition for PM. The redundant NSPS condition has been removed, but the NSPS citation has been added to the combined condition. The TRS limit was established in the 1978 permit. This limit is more stringent than the NSPS standard for TRS.

16. Visible emissions from the smelt dissolving tank (HW-PSG4-S018) shall comply with the following compliance provisions:
- Corrective action, as specified in the startup, shutdown, and malfunction plan shall be implemented when any 3-hour average parameter value is outside the range of values established in 40 CFR 63.864(j).
 - A violation of 40 CFR Subpart MM occurs when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in 40 CFR 63.864(j).

(9 VAC 5-40-110, 40 CFR 63.864(k)(1)(ii), and 40 CFR 63.864(k)(2)(iii))

17. Volatile organic compound, hazardous air pollutants, and total reduced sulfur emissions from the non-condensable gases emitted from the following equipment shall be captured and vented into a closed-vent system. These gases shall be controlled by thermal oxidation at a minimum of 1400°F in the lime kiln.
- Multiple effect evaporator and crystallizer concentrator system
 - Turpentine decantor vent
 - Turpentine storage tank vent
 - UNOX feed tank vent
 - Blow heat accumulator secondary condenser vent

In the event that the lime kiln temperature drops below 1400°F or is not operating normally, the non-condensable gases shall be controlled by thermal oxidation in the coal/bark boiler at a minimum of 1400°F. In the event that the white liquor sulfidity of the mill is greater than 30% and cannot be lowered by the addition of make up chemicals, the facility may elect to thermally oxidize the non-condensable gases in the coal/bark boiler. Immediately upon achieving a white liquor sulfidity of less than or equal to 30%, the facility will initiate use of the lime kiln if the lime kiln is operating normally. The facility shall not exceed 876 hours of non-condensable gas thermal oxidation in the coal/bark boiler, calculated monthly as the sum of the previous 12 month period.

The thermal destruction efficiency for volatile organic compounds shall be at least 98% by weight. The thermal destruction efficiency for hazardous air pollutants shall be at least 98% by weight. The thermal destruction efficiency for total reduced sulfur compounds shall be at least 99% by weight. Compliance with the temperature requirements shall be indicative of compliance with the thermal destruction efficiencies. The non-condensable gases shall be introduced into the lime kiln or coal/bark boiler with the primary fuel or into the flame zone. The non condensable gas system shall be provided with adequate access for inspection.

(9 VAC 5-80-110 and 9 VAC 5-50-260, 9 VAC 5-60-90, 40 CFR 63.443(d), #11 of 06/05/2000 permit)

The facility is required to monitor temperature on the lime kiln, but not on the coal/bark boiler. The facility has submitted a federal register preamble that indicates the coal/bark boiler can be assumed to have the minimum temperature requirement and retention time when operating normally.

18. The permittee shall maintain negative pressure at each enclosure or hood opening. Each component of the closed vent system that is operated at positive pressure and located prior to the lime kiln (HW-CRP2-S022) or the coal/bark boiler (HW-PSG2-S022) shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 ppm by volume above background as described in 40 CFR 63.457(d). (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-90, 40 CFR 63.450(b), 40 CFR 63.450(c), #12 of 06/05/2000 permit)
19. Condensate from the following equipment shall be hard piped to a discharge point below the liquid surface of a biological treatment system that shall reduce or destroy the total Hazardous Air Pollutants by at least 92% by weight. The Hopewell Wastewater Treatment Facility, which is the existing industrial treatment plant for the permittee, is required to meet the 92% by weight reduction standard as specified in 40 CFR 63.1583(a).
 - a. Segregated foul condensate from the multiple effect evaporator system and crystallizer concentrator.
 - b. Low volume, high concentration non-condensable gas system drain.
 - c. Turpentine decanter and turpentine storage tank underflow.
 - d. Blow heat accumulator secondary condenser condensate.
 - e. Blow heat accumulator primary condenser condensate

For the purposes of testing to show total HAP emission reductions from the use of the clean condensate alternative as specified in 40 CFR 63.447, the permittee may use the primary condenser condensate from the blow heat accumulator in the brown stock washers. Otherwise the brown stock washers shall use only clean fresh water, and the blow heat accumulator primary condenser condensate shall be controlled by being hard piped to a discharge point below the liquid surface of a biological treatment system that shall reduce or destroy the total Hazardous Air Pollutants by at least 92% by weight.

The UNOX feed tank's fixed roof and all other openings shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume of methanol above background, and vented into a closed vent system which exhausts to the non-condensable gas control system. Each opening on the UNOX feed tank shall be maintained in a closed, sealed position (e.g. covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair
(9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-90, 40 CFR 63.446e, #13 of 06/05/2000 permit)

20. On each bypass line in the closed vent system, the permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line.
(9 VAC 5-80-110 and 9 VAC 5-60-90, 40 CFR 63.450(d)(1), #14 of 06/05/2000 permit)

21. Emissions from the operation of the multiple effect evaporator system and crystallizer concentrator system shall not exceed the limitations specified below:

VOCs as determined by Reference Method 25 or alternative method approved by DEQ:
0.8 lbs/bone dry ton of pulp
0.8 lbs/hour

(9 VAC 5-80-110 and 9 VAC 5-50-260, #19 of 06/05/2000 permit)

This condition, which limits hourly emissions from the MEEV, will not have associated testing and periodic monitoring with it because the VOC's generated by the MEEV are mingled with VOC's from other sources before incineration in the lime kiln or combination boiler. These limits were derived from using NCASI estimates of MEEV uncontrolled emissions and applying the control efficiency assigned by the MACT (Subpart S). The facility has conditions that monitor compliance of the lime kiln and the combination boiler with MACT standards. These conditions will be used in lieu of testing to show compliance with the hourly and production standard limitations. See the periodic monitoring chart and emissions limitations demonstration that is farther on in this statement of basis.

B. Monitoring

1. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of the gases discharged to the atmosphere from the recovery furnace (HW-PSG4-S013). The span of this system shall be set at 70% opacity.
(9 VAC 5-80-110 and 40 CFR 60.284(a)(1), #28 of 06/05/2000 permit)
2. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the recovery furnace (HW-PSG4-S013). These systems shall be located downstream of the control devices and the spans of these continuous monitoring systems shall be set:

At a TRS concentration of 30 ppm for the TRS continuous monitoring system;
At 25% oxygen for the continuous oxygen monitoring system.

(9 VAC 5-80-110 and 40 CFR 60.284(a)(2), #28 of 06/05/2000 permit)

This section mentions MEEV's. However, the paragraph (60.284) also exempts from this monitoring requirement MEEV's that are vented to a lime kiln not subject to this subpart. Therefore, the MEEV is not required to have a TRS monitor on its exhaust as long as the exhaust is venting to the lime kiln.

3. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the MEEV (HW-PSG4-S999A), except where the provisions of §60.283(a)(1)(iii) or (iv) apply. These systems shall be located downstream of the control devices and the spans of these continuous monitoring systems shall be set:

At a TRS concentration of 30 ppm for the TRS continuous monitoring system;
At 25% oxygen for the continuous oxygen monitoring system.

(9 VAC 5-80-110 and 40 CFR 60.284(a)(2))

4. The owner or operator of a smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and

record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 63.8(c), as well as the following:

- a. The monitoring device must be certified by the manufacturer to be accurate to within a gage pressure of ± 2 inches of water gage pressure; and
- b. The monitoring device must be certified by the manufacturer to be accurate within $\pm 5\%$ of the design scrubbing liquid flow rate.

(9 VAC 5-80-110 and 40 CFR 63.864(e.10.i and ii))

5. Additionally, the permittee shall install, calibrate, maintain, and operate a continuous monitoring device for the continuous measurement of flow rate, in gallons per minute, to the scrubber (HW-PSG4-CD018) controlling the emissions from the smelt dissolving tank. This device shall be calibrated and maintained according to manufacturer's specifications. The permittee shall record once per shift measurements obtained from these devices.

(9 VAC 5-80-110 and 9 VAC 5-170-160, #32 of 06/05/2000 permit)

This condition was added to the previous permit to augment the NSPS monitoring requirements due to test reports sent in by the facility. The test reports showed that the pressure loss measurement changed very little while the flow rate changed significantly when measured in gallons per minute. The facility was able to show compliance with the particulate limit at higher flow rates, about 318 gallons/minute, while at lower flow rates they exceeded the particulate limits. During these flow variations the pressure loss measurement changed very little, and often not at all. Since there was so little change in the pressure loss measurement, it is not a very good indicator of compliance with the particulate standard, and the requirement for the flow meter was added.

6. The permittee shall install, calibrate, maintain, and operate a continuous monitoring device that measures and displays the thermal oxidation temperature of the non-condensable gases. This monitoring device shall be installed at the point of thermal oxidation on the lime kiln. The temperature monitoring device that is part of the non-condensable gas safety system on the lime kiln may be used to comply with this requirement. For both the lime kiln and the coal/bark boiler, all periods in excess of five minutes and their duration during which the combustion temperature at the point of thermal oxidation is less than 1400°F while burning non-condensable gases shall be considered a period of excess emissions. During each consecutive 12 month period, excess emissions shall account for no more than 1% of the total process operating time. (9 VAC 5-80-110, 9 VAC 5-40-1770 B 2, and #33 of 06/05/2000 permit)

This requirement to monitor the temperature of the lime kiln will suffice for periodic monitoring of the emission limitations placed upon the MEEV. As explained under the hourly and production standard emissions limitation for the MEEV, there is no way to test for only the VOC, HAP, or TRS contributions from the MEEV in the outlet gas stream of the lime kiln. Therefore, to show compliance the facility will rely on compliance with the temperature standard as a surrogate. Also, this condition is duplicative of the requirement in condition VI.B.2 that stems from the existing source regulation 9 VAC 5-40-1770 B 2. These conditions will be combined and all applicable citations listed in the Title V permit.

7. For each enclosure opening, the permittee shall perform a visual inspection of the closure mechanism at least once every 30 days to ensure the opening is maintained in the closed position and sealed. Each closed vent system shall be visually inspected every 30 days and at other times as requested by the Director, Piedmont Regional Office. The visual inspection shall include inspection of the duct work, piping, enclosures, and connections to covers for visible evidence of defects.

(9 VAC 5-80-110 and 9 VAC 5-60-90, #34 of 06/05/2000 permit, 40 CFR 60.453(k)(1) & (2))

8. For each enclosure opening, the permittee shall demonstrate initially and annually that each enclosure opening is maintained at negative pressure using one of the following procedures:
- An anemometer to demonstrate flow into the enclosure opening;
 - Measure the static pressure across the opening;
 - Smoke tubes to demonstrate flow into the enclosure opening; or
 - Any other industrial ventilation test method demonstrated to the satisfaction of the Director, Piedmont Region.

(9 VAC 5-80-110 and 9 VAC 5-60-90, #35 of 06/05/2000 permit, 40 CFR 63.453(k)(4), 40 CFR 63.457(e))

9. For positive pressure closed vent systems or portions of closed vent systems, the permittee shall demonstrate no detectable leaks initially and annually using Method 21. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used: zero air (less than 10 ppm by volume of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts ppm by volume methane or n-hexane.
(9 VAC 5-80-110 and 9 VAC 5-60-90, #36 of 06/05/2000 permit, 40 CFR 63.450(c), 40 CFR 63.453(k)(3), 40 CFR 63.457(d))

10. If a manual seal is used to comply with 40 CFR 63.450(d)(2), the permittee shall inspect at least once every 30 days the bypass valve or closure mechanism required to ensure that the bypass valve is maintained in the closed position and the multiple effect evaporator and crystallizer concentrator system's gas stream is not diverted from the required control equipment.
(9 VAC 5-80-110 and 9 VAC 5-60-90, #37 of 06/05/2000 permit, 40 CFR 63.453(k)(5))

11. If any inspection identifies visible defects in duct work, piping, enclosures or connections to covers, or if an instrument reading of 500 ppm by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable. For purposes of this condition, defects are described in 40 CFR 63.964.
- A first effort to repair or correct the closed vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
 - The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(9 VAC 5-80-110 and 9 VAC 5-60-90, #38 of 06/05/2000 permit, 40 CFR 63.453(k)(6))

12. The permittee shall inspect the individual drain system every 30 days in accordance with the following requirements:
- When the drain is using a water seal to control air emissions, the permittee shall verify appropriate liquid levels are being maintained and identify any other defects that could reduce water seal control effectiveness.
 - When the drain is using a closure device to control air emissions, the permittee shall visually inspect each drain to verify that the closure device is in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken cracked or otherwise damaged seals or gaskets on closure devices; and broken or missing plugs, caps, or other closure devices.
 - The permittee shall visually inspect each junction box to verify that closure devices are in place and there are no defects. Defects include, but are not

limited to, visible cracks, holes, or gaps in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps or other closure devices.

- d. The permittee shall visually inspect the unburied portion of each sewer line to verify that all closure devices are in place and there are not defects. Defects include, but are not limited to, visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.
- e. The permittee shall perform the inspections initially at the time of installation of the water seals and closure devices for the individual drain system and, thereafter, at least every 30 days.

(9 VAC 5-80-110 and 9 VAC 5-60-90, #39 of 06/05/2000 permit, 40 CFR 63.453(l)(1), 40 CFR 63.964(a)(1))

13. For any defect of the drain system, the permittee shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 15 calendar days after detection. Repair of a defect may be delayed beyond 15 calendar days if the permittee determines that repair of the defect requires emptying or temporary removal from service of the individual drain system and no alternative capacity is available at the facility site to accept the wastewater normally managed in the individual drain system. In this case the permittee shall repair the defect at the next time the process or unit that is generating the wastewater managed in the individual drain system stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(9 VAC 5-80-110 and 9 VAC 5-60-90, #40 of 06/05/2000 permit, 40 CFR 63.453(l)(1), 40 CFR 63.964(b)(1)&(2))

14. Visible emissions observations shall be conducted for the cooling tower (18) at least monthly during periods of normal facility operation for a sufficient time interval to determine if there are any above normal visible emissions. If above normal visible emissions are observed, a visible emissions evaluation (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9 shall be conducted. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until a total of sixty minutes of observation has been completed. A Method 9 evaluation shall not be required if the visible emissions condition is corrected in a timely manner such that no above normal visible emissions are present; the emissions unit is operating at normal operating conditions; and the cause and corrective measures taken are recorded.

(9 VAC 5-80-110)

C. Record Keeping

1. The permittee shall calculate and record on a daily basis 12 hour average TRS concentrations of emissions from the recovery furnace (HW-PSG4-S013) for the two consecutive periods of each operating day. Each 12 hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1 hour average total reduced sulfur concentrations provided by the continuous monitoring system. The permittee shall also calculate and record on a daily basis 12 hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12 hour averages shall correspond to the 12 hour average TRS concentrations and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1 hour average oxygen concentrations provided by the continuous monitoring system. The permittee shall correct all 12 hour average TRS concentrations to 8 volume percent oxygen using the following equation:

$$C_{\text{corr}} = C_{\text{meas}} \times (21-X/(21-Y)) \text{ where: } C_{\text{corr}} = \text{the concentration corrected for oxygen}$$

C_{meas} = the concentration uncorrected for oxygen
 $X = 8\%$ for the recovery furnace
 Y = the measured 12 hour average volumetric O_2
concentration

(9 VAC 5-80-110 and 40 CFR 60.284(c))

2. Periods of excess emissions shall not be considered a violation of the standards in 40 CFR 63 Subpart S provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi annual reporting period does not exceed 1%.
(9 VAC 5-80-110 and 9 VAC 5-60-90, #30 of 06/05/2000 permit, 40 CFR 63.443(e)(1))
3. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with the 06/05/2000 permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:
 - a. The yearly production of air dried tons of pulp, calculated monthly as the sum of each consecutive 12 month period.
 - b. The average annual virgin black liquor solids content of the black liquor fired in the recovery furnace (HW-PSG4-S013) in weight percent, calculated daily for the period up to the end of the previous calendar week.
 - c. The records of measurements obtained from the flow indicator on the NCG bypass line.
 - d. Supplier fuel analysis of all coal shipments purchased.
 - e. Time, date, and duration of periods when non-condensable gases were vented to the atmosphere.
 - f. Time, date, and duration of periods when non-condensable gases were thermally oxidized in the coal/bark boiler.
 - g. Monthly calculations showing compliance with the annual hours of operation limitation for incineration of the non-condensable gases in the coal/bark boiler as listed in Condition VI.A.167.
 - h. Quantitative information concerning the operational status of the lime kiln corresponding to periods when non-condensable gases were thermally oxidized in the coal/bark boiler or vented to the atmosphere. This information may include, but is not limited to, parameters such as white liquor sulfidity, white liquor clarity, lime availability, lime kiln excess air oxygen content, temperature of the lime kiln, or other data showing that the lime kiln was not operating normally.
 - i. Most recent test data.
 - j. Emission factor and formula used for calculation of MEEV (HW-PSG4-S999A) VOC emissions
 - k. Emission factors, equations, and equipment ratings used for calculation of soap skimmer (HW-PSG4-S999B) VOC and TRS emissions
 - l. Emission factor, formula used, and TDS content of city water used in the calculation of PT and PM_{10} from the cooling tower (18).

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and 9 VAC 5-50-50, #44 of 06/05/2000 permit)

4. For each enclosure opening, closed vent system, and closed collection system,
 - a. the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of the following equipment and systems:
 - (i) Multiple effect evaporator and crystallizer concentrator system
 - (ii) Turpentine decantor
 - (iii) Turpentine storage tank
 - (iv) UNOX feed tank
 - (v) Blow heat accumulator primary and secondary condenser
 - (vi) NCG system drain
 - b. The permittee shall record the following information for each inspection:
 - (i) Date of inspection;
 - (ii) The equipment type and identification;
 - (iii) Results of negative pressure tests for enclosures;
 - (iv) Results of leak detection tests;
 - (v) Nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
 - (vi) Date the defect or leak was detected and the date of each attempt to repair the defect or leak as well as location of each defect or leak;
 - (vii) Repair methods applied in each attempt to repair the defect or leak;
 - (viii) Reason for the delay if the defect or leak is not repaired within 15 days after discovery;
 - (ix) Expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
 - (x) Date of the successful repair of the defect or leak;
 - (xi) The position and duration of opening of bypass line valves and the condition of any valve seals; and
 - (xii) The duration of the use of bypass valves on computer controlled valves.
- (9 VAC 5-80-110 and #45 of 06/05/2000 permit, 40 CFR 63.454(b))
5. The startup, shutdown, and malfunction plan for the recovery furnace and the smelt dissolving tank must include the requirements in 40 CFR 63.866(a)(1) and (2) in addition to the information required under 40 CFR 63.6(e).
(9 VAC 5-80-110 and 40 CFR 63.866(a))
6. The permittee shall maintain records of any occurrence when corrective action is required and when a violation as noted in Condition VI.A.12 and VI.A.16.
(9 VAC 5-80-110 and 40 CFR 63.866(b))
7. The owner or operator must maintain records of the information in 40 CFR 63.866(c)(1) through 7 in addition to the general records required by 40 CFR 63.10(b)(2)
(9 VAC 5-80-110 and 40 CFR 83.866(c))

D. Testing

1. Once per permit term, the facility shall conduct performance tests for particulate matter, sulfur dioxide, and total reduced sulfur from the exhaust of the recovery furnace to determine compliance with all emission limitations listed in Condition VII.A.11. Tests shall be conducted at no less than 80% of the maximum rated capacity of the recovery furnace. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests are to be arranged with the Director, Piedmont Region. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Director, Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110)

This requirement for testing once every 5 years will act as periodic monitoring for the recovery furnace requirements concerning particulate matter, TRS, and SO₂. The TRS concentration standard already has adequate monitoring in place in form of the required continuous emission monitors. Compliance demonstrations via the testing and the monitoring will also demonstrate that the facility is adequately maintaining its ESP so that the design efficiency is being maintained, that the facility is adequately performing the work practices of limiting sulfidity to lower SO₂ emissions, that the facility is maintaining the indirect contact system that prevents increased TRS emissions, and that the facility is meeting its pounds per hour standards.

2. Once per permit term, the facility shall conduct performance tests for particulate matter and TRS from the exhaust of the scrubber controlling the smelt dissolving tank to determine compliance with all emission limitations listed in Condition VII.A.15. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. Test reports shall contain readings taken every five minutes during each test run from all gauges associated with the scrubber. The test report shall also contain the average measurement for each gauge during each test that shows compliance with the standards. The details of the tests are to be arranged with the Director, Piedmont Region. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Director, Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit. (9 VAC 5-80-110)

This condition provides the basis for periodic monitoring for the smelt dissolving tank scrubber and associated emission limitations. Compliance with the standards for particulate matter and TRS are considered to be indicative of adequate scrubber maintenance to ensure that the design efficiencies are being attained.

E. Reporting

1. The owner or operator must report quarterly the number and duration of occurrences when the source met or exceeded the average of ten consecutive 6-minute averages resulting in a measurement greater than 20% opacity associated with the ESP or when any 3-hour average parameter value is outside the range of values established in 40 CFR 63.864(j). (9 VAC 5-80-110 and 40 CFR 63.867(c))
2. The permittee shall report semiannually periods of excess emissions from the recovery furnace. Excess emissions shall be all 12 hour averages of TRS concentrations above 5 ppm by volume and opacities as defined in Condition VI.A.12. The Administrator will not consider periods of excess emissions to be violations of 40 CFR 60.11(d) "Compliance with standards and maintenance requirements" provided that the percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed 1% for TRS emissions and 6% for average opacity emissions. (9 VAC 5-80-110 and 40 CFR 60.284(e), #28 & #29 of 06/05/2000 permit)
3. The permittee shall submit an excess emissions report for each calendar quarter for each continuous monitoring system, including the bypass line monitoring device required in Condition VI.A.20, the scrubber monitoring devices required in Condition VI.B.5, and the temperature monitoring device required in Condition VI.B.6. The report shall be postmarked by the 30th day following the end of each calendar quarter. (9 VAC 5-80-110 and #41 of 6/5/2000 permit)

Streamlined Conditions

40 CFR 60.283(a)(4) The permittee shall not cause to be discharged into the atmosphere from any smelt dissolving tank any gases that contain TRS in excess of 0.033 lb/ton black liquor solids as H₂S.

This section in the NSPS is less stringent than the requirement of 0.0168 lbs/ton dry black liquor solids, which is required in the PSD permit dated 6/5/2000. Therefore, this NSPS section is being streamlined, and does not apply to this facility.

40 CFR 60.285 Performing performance tests as required by 40 CFR 60.285.

This section requires testing of the recovery furnace and smelt dissolving tank for compliance with the particulate matter standards in 60.282 and the TRS standards in 60.283. These initial tests have been performed in 1981 based on information from the source.

Condition #44.b. from the June 5, 2000 permit has been streamlined because the dates within this condition have already been passed.

Condition #44.d,e,g, and h from the June 5, 2000 permit have been streamlined because these conditions are already covered under the Facility Wide Applicable Requirements section.

Condition #17 from the June 5, 2000 permit (#VII.A.11) has been amended to exclude the opacity limit since the MACT MM limit for opacity is more stringent.

Condition #32 from the June 5, 2000 permit has been streamlined since the requirements under 40.864 (e.10.i and ii.) are more stringent.

VIII. CO-PRODUCT RECOVERY PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the tall oil batch reactor (HW-CT01-V009), turpentine condenser/decanter tank (HW-CST1-V001A), turpentine storage (HW-CST1-V001B) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
2. RACT for the co-product recovery area with the exception of the tall oil batch reactor vent shall be no additional controls. The permittee shall continue to operate the co-product recovery area in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices.
(9 VAC 5-80-110 and Section E, #7, CA dated 05/30/1996)
3. RACT for the tall oil batch reactor vent (HW-CT01-V009) within the co-product recovery area within the Hopewell Mill shall be a packed tower scrubber (HW-CT01-CD009). The VOC removal efficiency of the scrubber shall be 15%.
(9 VAC 5-80-110 and Section E, #8, CA dated 05/30/1996)

This condition has been amended. Specifically, the installation requirement has been removed since the scrubber was installed and is currently operating.

4. The total HAP emissions from the turpentine recovery system (HW-CST1-V001A and V001B) shall be controlled. The equipment shall be enclosed and vented into a closed-vent system and routed to the combination boiler or the lime kiln. The HAP emission stream shall be introduced with the primary fuel or into the flame zone.
(9 VAC 5-80-110 and 40 CFR 63.443(a)(i), 40 CFR 63.443(c), 40 CFR 63.443(d)(4))
5. The pulping process condensates from the turpentine recovery system shall be conveyed in a closed collection system and treated by discharging the pulping process condensate below the liquid surface of a biological treatment system that shall reduce or destroy the total HAPs by at least 92% or more by weight.
(9 VAC 5-80-110 and 40 CFR 63.446(d), 40 CFR 53.446(e)(2)&(3))
6. The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) of the condensate tank used in the closed collection system shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in 63.450 and shall be routed to the combination boiler or lime kiln, where the HAP emission stream shall be introduced with the primary fuel or into the flame zone.
(9 VAC 5-80-110 and 40 CFR 63.446(d)(2), 40 CFR 63.443(d))

B. Monitoring

1. The scrubber (HW-CT01-CD009) controlling the tall oil batch reactor (HW-CT01-V009) shall operate with a minimum pressure differential as determined during performance testing. The scrubber differential pressure (gas pressure difference between scrubber inlet and outlet) shall be continuously recorded. The Hopewell Mill shall keep records and provide an explanation when the average pressure differential varies from the optimum operating pressure differential by more than two (2) psig, established during the most recent performance test that demonstrated compliance, for a period of time in excess of 5 minutes during the batch reaction steaming phase. This information shall be maintained at the facility for the most recent five years. Notification of a malfunction shall be given in accordance with the SAPCB regulations.
(9 VAC 5-80-110 and Section E, #12, CA dated 5/30/1996)

C. Record Keeping

1. The permittee shall maintain records of all operating parameters necessary to demonstrate compliance with the consent agreement dated 05/30/1996. These records shall be maintained for the tall oil batch reactor vent packed tower scrubber and associated monitoring equipment for the pressure differential, and shall include, but are not limited to, all of the following:
 - a. A maintenance schedule
 - b. Scheduled and unscheduled maintenance records
 - c. Inventory of spare parts that are needed to minimize the duration of equipment breakdowns
 - d. Written operating procedures;
 - e. Packed tower scrubber differential pressure (instantaneous readings and continuous recorded readings)
 - f. Beginning and ending times of the batch reactor steaming phase.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Section E, #15, CA dated 05/30/1996)

D. Testing – Not applicable.

E. Reporting

1. Quarterly, the permittee shall report all excursions in differential pressure of the scrubber (HW-CT01-CD009) controlling the tall oil batch reactor recorded for that time period, along with the explanation for each excursion and actions taken to correct the excursion. (9 VAC 5-80-110)

The permittee currently has no requirement to report the differential pressure readings that indicate an excursion. This requirement is being added to facilitate periodic monitoring at the tall oil reactor.

Streamlined Conditions

Section E, #9, CA dated 5/30/1996 – This condition required testing of the scrubber while the batch reactor was operating at 80% efficiency using EPA Reference Method 25 or equivalent methods

This condition has been completed. The test was performed October 1996 based on information from the source.

Section E, #10, CA dated 5/30/1996 – This condition required that continuous readings be taken from the differential pressure gauges during the tests.

This condition has been completed. The test was performed October 1996 based on information from the source.

Section E, #11, CA dated 5/30/1996 – This condition required notification of testing. This condition is obsolete since the testing has been performed and approved by DEQ.

IX. PAPER MILL PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the batch cleaning operation for paper machine (HW-PAM1-F031), paper machine vacuum pump (HW-PAM1-S001), paper machine vacuum pump (HW-PAM1-S002), dryer hood (HW-PAM1-S016), high density storage chest (HW-PAM1-V998a), and high density storage chest (HW-PAM1-V998b) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity. (9 VAC 5-40-80 and 9 VAC 5-80-110)
2. Visible emissions from the wet end fourdrinier (HW-PAM1-S011), paper machine press section (HW-PAM1-S012), and paper mill process area (HW-PAM1-S999) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity. (9 VAC 5-50-80 and 9 VAC 5-80-110)
3. RACT for VOC sources within the paper mill area of the Hopewell Mill shall be no additional controls. The permittee shall continue to operate the paper mill area in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices. (9 VAC 5-80-110 and Section E, #5, CA dated 05/30/1996)

Monitoring – None identified for this section.

Record Keeping – None identified for this section.

Testing – None identified for this section.

Reporting – None identified for this section.

Streamlined Conditions – None identified for this section.

X. POWER GENERATION PROCESS AREA APPLICABLE REQUIREMENTS

A. Limitations

1. Visible emissions from the cooling tower (HW-PSB3-F001), cooling tower (HW-PSB3-F002), and cooling tower (HW-PSB3-F003) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)
2. RACT for VOC sources within the power generation area of the Hopewell Mill shall be no additional controls. Stone Container shall continue to operate the power generation area in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices.
(9 VAC 5-80-110 and Section E, #5 of CA dated 05/30/1996, 9 VAC 5-40-300)
3. Particulate emissions from the coal/bark boiler (HW-PSG2-S022) shall be controlled by a multicyclone followed by an electrostatic precipitator (HW-PSG2-CD022) with a combined design control efficiency of 99.5%. An annual internal inspection shall be conducted on the cyclone by the permittee to insure structural integrity. The multicyclone and electrostatic precipitator shall be provided with adequate access for inspection.
(9 VAC 5-80-110, 9 VAC 5-50-280, #3 06/05/2000 permit)
4. Sulfur dioxide emissions from the coal/bark boiler (HW-PSG2-S022) shall be controlled by the use of coal with a maximum of 1.2% sulfur content by weight.
(9 VAC 5-80-110, 9 VAC 5-50-280, #4 of 06/05/2000 permit)
5. Nitrogen oxides emissions from the coal/bark boiler (HW-PSG2-S022) shall be controlled by the use of off-stoichiometric firing with secondary air supply.
(9 VAC 5-80-110, 9 VAC 5-50-280, #5 of 06/05/2000 permit)
6. Emissions from the operation of the coal/bark boiler (HW-PSG2-S022) shall not exceed the limitations specified below:
 - a. Particulate emissions as determined by Reference Method 5:

When firing coal or coal and woodwaste:	0.1 lbs/million BTU
	72.8 lbs/hour
When firing 100% woodwaste:	44.3 lbs/hour
 - b. SO₂ as determined by Reference Method 6 or alternative method approved by DEQ:

When firing coal or coal and woodwaste:	1.2 lbs/million BTU
	868 lbs/hour
When firing 100% woodwaste:	531 lbs/hr

- c. NO_x as determined by Reference Method 7 or alternative method approved by DEQ:
 When firing coal or coal and woodwaste: 0.7 lbs/million BTU
 500 lbs/hour
 When firing 100% woodwaste: 310 lbs/hour
- d. Opacity as measured by Reference Method 9:
 20% except for one six minute period per hour of not more than 27%

(9 VAC 5-80-110, 9 VAC 5-50-280, #15 of 06/05/2000 permit, 40 CFR 60.42(a)(1) & (2), 40 CFR 60.43(a)(1) & (2), 40 CFR 60.44(a)(2) & (3))

The particulate standard from Subpart D is also 0.1 lbs/mmbtu, for either coal or woodwaste. The citation of Subpart D has been added to this condition. The SO₂ standard from Subpart D is 1.2 lbs/mmbtu for coal and woodwaste. This citation of Subpart D has been added to this condition. If the facility uses oil for load purposes, the condition must be adjusted to reflect 0.8 lbs/mmbtu, at a minimum. This standard for NO_x, 0.7 mmbtu/hr, is also the NSPS Subpart D standard for NO_x for solid fossil fuel and wood residue. This standard will change if the facility burns fuel oil for load purposes. This standard is the same standard for opacity listed in NSPS Subpart D. The citation for Subpart D has been added to this condition.

- 7. Emissions from the thermal oxidation of non-condensable gases in the coal/bark boiler shall not exceed the limitations specified below:

Sulfur Dioxide	50.6 lbs/hr	22.2 tpy
Nitrogen Oxides	3.2 lbs/hr	1.4 tpy
Carbon Monoxide	32.8 lbs/hr	14.2 tpy
Volatile Organic Compounds	18.6 lbs/hr	8.0 tpy
Total Reduced Sulfur	0.3 lbs/hr	0.1 tpy

(9 VAC 5-80-110 and #16 of 06/05/2000 permit)

- 8. The approved fuels for the coal/bark boiler (HW-PSG2-S022) are bituminous coal and wood. A change in fuels may require a permit to modify and operate.
 (9 VAC 5-80-110 and 9 VAC 5-80-20, #22 of 06/05/2000 permit)
- 9. The sulfur content of the coal to be burned in the coal/bark boiler (HW-PSG2-S022) shall not exceed 1.2% by weight per shipment. The permittee shall maintain records (including fuel analysis for sulfur content) of all coal shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years.
 (9 VAC 5-80-110 and #24 of 06/05/2000 permit)
- 10. Coal processing, conveying, and storage equipment (HW-PSG2-F002, F003, F004) shall not exhibit opacity greater than 20%, as measured by 40 CFR 60 Appendix A, Method 9.
 (9 VAC 5-80-110 and 40 CFR 60.252(c))

B. Monitoring

- 1. Visible emissions observations shall be conducted for the coal processing, conveying, and storage equipment (HW-PSG2-F002, F003, F004), and cooling towers (HW-PSB3-F001, F002, F003) at least monthly during periods of normal facility operation for a

sufficient time interval to determine if there are any above normal visible emissions. If above normal visible emissions are observed, a visible emissions evaluation (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9 shall be conducted. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until a total of sixty minutes of observation has been completed. A Method 9 evaluation shall not be required if the visible emissions condition is corrected in a timely manner such that no above normal visible emissions are present; the emissions unit is operating at normal operating conditions; and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110)

2. The following continuous emission monitoring systems (CEMs) shall be installed on the exhaust of the coal/bark boiler (HW-PSG2-S022):
 - a. A continuous emission monitor to measure and record the opacity of stack gases;
 - b. A continuous emission monitor to measure and record the concentration of sulfur dioxide in the stack gases;
 - c. A continuous emission monitor to measure and record the concentration of nitrogen oxides in the stack gases; and
 - d. A continuous emission monitor to measure and record the oxygen or carbon dioxide concentration in the stack gases.

All of the CEM calculation, data reduction, record keeping, and reporting requirements of NSPS Subpart D shall apply.

(9 VAC 5-80-110 and 9 VAC 5-50-40, #27 of 06/05/2000 permit, 40 CFR 60.45(a))

The citation for the NSPS requirement in Subpart D that requires monitors has been added to this condition.

3. For performance evaluations and calibration checks, the following procedures shall be used:
 - a. Methods 6,7, and 3B, as applicable shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems.
 - b. Sulfur dioxide or nitric oxide, as applicable shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.
 - c. The span value for the continuous monitoring system measure the opacity of emissions shall be 80, 90, or 100%, for the continuous monitoring system measuring sulfur dioxides the span value shall be 1,500 ppm, and for the continuous monitoring system measuring nitrogen oxides, the span value shall be 1,000 ppm.

(9 VAC 5-80-110 and 40 CFR 60.45(c))
4. For any continuous monitoring system installed under Condition IX.B.2., the conversion procedures under 40 CFR 60.45e.1 through 2 shall be used to convert the continuous monitoring data into units of the applicable standard, lbs/mmbtu.
(9 VAC 5-80-110 and 40 CFR 60.45(e))
5. The permittee shall develop and implement a quality assurance plan for the continuous emission monitors on the coal/bark boiler. At a minimum the plan shall provide for daily calibration drift checks, periodic preventative maintenance, and annual audits, including annual cylinder gas audits for the sulfur dioxide and nitrogen oxide monitors. Section 3 of Procedure 1 of Appendix F of 40 CFR 60 may be used as a guide by which to pattern the plan. Audit information shall be submitted with semiannual excess emission and summary report form information. The permittee shall keep the written quality assurance plan on record to be made available for inspection by the DEQ. In addition, if the plan is revised, the permittee shall keep previous versions of the plan on record, to be made

available for inspection, upon request, by the DEQ, for a period of five years after each revision to the plan.

(9 VAC 5-80-110 and 40 CFR 60.13(a))

Currently the SO₂ and NO_x monitors are not audited. However, since using the monitors is the most efficient way to ensure periodic monitoring for the lbs/mmbtu standards of the coal/bark boiler, these monitors will need audits to ensure that they are gathering accurate information. S content in the coal is currently not a good indication of the state of compliance with the SO₂ emissions limitations in terms of lbs/mmbtu since the SO₂ standard is 1.2 lbs/mmbtu, which does not correspond to the current S content limit of the coal, 1.2% by weight per shipment.

C. Record Keeping

1. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal/bark boiler (HW-PSG2-S022); any malfunction of the air pollution control equipment (HW-PSG2-CD022, electrostatic precipitator), or any periods during which the continuous monitoring systems are inoperative.
(9 VAC 5-80-110 and 40 CFR 60.7(b))
2. The permittee shall maintain records of the monthly observations made of the coal process, conveying, and storage equipment. These records shall include at a minimum the name and signature of the observer; the date and time of the observances; Method 9 readings taken if any; and trouble shooting and corrective actions taken, if any.
(9 VAC 5-80-110)
3. The permittee shall maintain records of the emission factors, equations, and equipment ratings used to calculate the emissions from the cooling tower (HW-PSB3-F001, F002, F003).
(9 VAC 5-80-110)

D. Testing

1. Once per permit term, and no later than 1 year after the initial issuance date of this permit, the facility shall conduct performance tests for particulate matter, sulfur dioxide, and nitrogen oxides on the exhaust from the coal/bark boiler (HW-PSG2-S022) and electrostatic precipitator (HW-PSG2-CD022) to determine compliance with all emission limitations in IX.A.6 and with the control efficiency listed in X.A.3. Tests shall be conducted at no less than 80% of maximum rated capacity for each fuel type/mix. The details of the tests are to be arranged with the Director, Piedmont Region. The permittee shall submit a test protocol at least 30 days prior to testing. Once copy of the test results shall be submitted to the Director, Piedmont Region within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110)

Generally the use of the lbs/mmbtu limits for SO₂ and NO_x, coupled with the maximum rated capacity of the equipment, can be used to show compliance with hourly standards. However, in this case hourly standards are lower than the maximum calculated standards. Therefore, testing must be used to ensure compliance with the hourly standards.

E. Reporting

1. Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually for each six month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six

month period. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

- a. Opacity: Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds 20% opacity, except that one six-minute average per hour of up to 27% opacity need not be reported.
- b. Sulfur Dioxide: Excess emissions are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed 1.2 lb/mmBTU.
- c. Nitrogen oxides: Excess emissions are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed 0.7 lbs/mmBTU.

(9 VAC 5-80-110 and 40 CFR 60.45(g))

2. Semiannual excess emission reports shall also contain, dates of shipments of coal received that had an S content of more than 1.2% by weight, and records of monthly visible emissions observations recorded according to IX.C.2 as well as any Method 9 data measured and any corrective actions taken.
(9 VAC 5-80-110)

Streamlined Conditions – None identified for this section.

XI. MISCELLANEOUS EMISSION SOURCES

A. Limitations

1. Visible emissions from the parts cleaner (HW-MNT-F007), parts cleaner (HW-MNT-F008), gasoline storage and dispensing (HW-GAS1-F001), parts cleaner (HW-MNT1-F009), and fuel oil storage tanks (PWR-10) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)
2. The permittee shall prevent the discharge into the atmosphere of at least 85% by weight of volatile organic compound emissions from the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009)
(9 VAC 5-80-110 and 9 VAC 5-40-3280 C.1.)
3. The reservoirs of the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) shall be provided with covers that are designed so that they can easily be operated with one hand. Drainage facilities should be provided to collect and return the solvent to a closed container. The solvent spray should be a solid, fluid stream (not a fine, atomized or shower type spray) and at a pressure that does not cause excessive splashing.
(9 VAC 5-40-3290 C.1.a, 9 VAC 5-40-3290 C.1.b., 9 VAC 5-40-3290 C.1.d.)
4. If the solvent volatility of the solvent used in the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) is greater than 0.6 psi measured at 100 °F, or if the solvent is heated above 120 °F, then the degreaser (if the open area is greater than 20ft²) should be equipped with one of the vapor control methods listed under 9 VAC 5-40-3290 C.1.e.1 through 5.
(9 VAC 5-80-110 and 9 VAC 5-40-3290 C.1.e.)

5. Waste solvent from the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) shall not be disposed of or transferred to another party such that greater than 20% of the waste (by weight) can evaporate into the atmosphere. The permittee shall store waste solvent only in closed container.
(9 VAC 5-80-110 and 9 VAC 5-40-3290 C.2.a.)
6. The cover on each cold cleaning machine (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) shall be closed whenever the permittee is not handling parts in the cleaner. Cleaned parts should drain for at least 15 seconds or until dripping ceases.
(9 VAC 5-40-3290 C.2.b., 9 VAC 5-40-3290 C.2.c.)
7. Disposal of waste solvent from the cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) shall be by reclamation or incineration by an outside service.
(9 VAC 5-40-3290 C.2.d.)
8. The permittee shall place in a conspicuous location on or near the cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) a permanent label summarizing the requirements of XI.A.5, XI.A.6, and XI.A.7.
(9 VAC 5-40-3290 C.1.c)

B. Monitoring

1. Once each month the permittee shall inspect the area around each cleaning machine (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) to ensure that all operational requirements are being met. Any instances of non-compliance shall be corrected immediately. In areas where consecutive monthly inspections show instances of non-compliance, the permittee shall conduct training for area personnel on correct operational techniques to minimize air emissions from the cleaning machines.
(9 VAC 5-80-110)

C. Record Keeping

1. The permittee shall maintain records of each monthly inspection conducted at each cleaning machine (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009), with all corrections noted. Any training conducted shall also be noted, along with a listing of personnel attending the training and dates of the training.
(9 VAC 5-80-110)
2. The permittee shall maintain MSDS information on the solvent used in the cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009). This information shall include data showing compliance with XI.A.4.
(9 VAC 5-80-110)

D. Reporting

1. Semiannually the permittee shall report on instances of non-compliance found during cleaning machine (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) area inspections and training conducted for these machines.
(9 VAC 5-80-110)

Streamlined Conditions – None identified for this section.

XII. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
Wood Yard Process Area				
1 2	long log handling (1997) Long log cranes Drum debarker infeed chute	9 VAC 5-80-720 B	PM ₁₀	
3 4 5 6 7 8 9 10	Debarking & chipping (1997) Drum debarker Drum debarker discharge gate Infeed conveyor Control House Prentice loader Chipper Motor Chipper Building	9 VAC 5-80-720 B	PM ₁₀	14'x90' 80' 15 knife 116" diameter
	Pile erosion from long log piles (1997)	9 VAC 5-80-720 B	PM ₁₀	
	Pile erosion from fresh cut chip pile (1997)	9 VAC 5-80-720 B	PM ₁₀	
	Pile erosion from purchased chip pile (pre 1972)	9 VAC 5-80-720 B	PM ₁₀	
	Pile erosion bark pile (1997)	9 VAC 5-80-720 B	PM ₁₀	
11 12 13 14	chip handling (> 1976) #1 conveyor Surge Bin #2 conveyor To stack conveyor	9 VAC 5-80-720 B	PM ₁₀	72"x232" 48"x343' 54"x238'
	Bark hogging (1997)	9 VAC 5-80-720 B	PM ₁₀	
30 33 35 36 37	Bark handling (1997) #1 Mill bark conveyor #2 Mill bark conveyor Bark stacker and conveyor #3 Mill bark conveyor #4 Mill bark conveyor Bark/Truck loading	9 VAC 5-80-720 B	PM ₁₀	42"x255' 42"x223' 42"x66' 42"x626' 42"x253'
	Chip silos (1953)	9 VAC 5-80-720 B	PM ₁₀	
15	Fresh chip unloading to new pile Stacker conveyor and under pile reclaimers	9 VAC 5-80-720 B	PM ₁₀	60"x153'
16 17	Fresh cut chip pile transport to scalping screen reclaim conveyor Conveyor to scalping screen	9 VAC 5-80-720 B	PM ₁₀	42"x386' 42"x195'
18	Conveyor to screening	9 VAC 5-80-720 B	PM ₁₀	42"x238'
20 A B C D E F	Fresh chip transport to silo Accepts conveyor Incline conveyor Shuttle conveyor #1 Short conveyor #2 Short conveyor #3 Short conveyor #3 Medium conveyor	9 VAC 5-80-720 B	PM ₁₀	42"x428' 42"x155' 42"x28' 48"x72' 48"x42' 24"x50' 24"x100'
21&22	Purchased hip unloading, truck Truck dumpers with live hopper reclaim	9 VAC 5-80-720 B	PM ₁₀	

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
23 24	Purchased chip transport to new pile #1 chip dump conveyor #2 chip dump conveyor	9 VAC 5-80-720 B	PM ₁₀	48"x134' 48"x248'
27, 28, & 29	Transport bark from debarker to conveyor Vibrating conveyors	9 VAC 5-80-720 B	PM ₁₀	24/37x60'
31 & 32	Secondary Chipper and Screen Disc screen and hog	9 VAC 5-80-720 B	PM ₁₀	
38 39	Undersize chips conveyed to wood residue pile #1 Fines conveyor #2 Fines conveyor	9 VAC 5-80-720 B	PM ₁₀	24"x351' 24"x184'
G	Conveyor from silos to chip bins Long conveyor	9 VAC 5-80-720 B	PM ₁₀	48"x465'
H	chip bins	9 VAC 5-80-720 B	PM ₁₀	
I	From bins to digester loading conveyor Outfeed conveyor	9 VAC 5-80-720 B	PM ₁₀	38"x290'
J	Digester loading conveyor	9 VAC 5-80-720 B	PM ₁₀	48"x460'
K	Purchased chip unloading, rail Rail car shaker	9 VAC 5-80-720 B	PM ₁₀	
L	Old screen and pneumatic conveyance	9 VAC 5-80-720 B	PM ₁₀	
	Fines Conveyor	9 VAC 5-80-720 B	PM ₁₀	
Recausticizing Area				
HW-CRP1-V007	Mud storage	9 VAC 5-80-720 A.42		
HW-CRP1-V023	Mud Pre-coat filter and vacuum pump exhaust (1993)	9 VAC 5-80-720 A.42		
HW-CRP1-V025A	Green liquor clarifier tank (1998)	9 VAC 5-80-720 A.42		
HW-CRP1-V025B	Green liquor storage tanks including surge tank (1998)	9 VAC 5-80-720 A.42		
HW-CRP1-V026	Dregs filter, hood and vacuum pump (>1976)	9 VAC 5-80-720 A.42		
HW-CRP1-622A	Pad clarifier and causticizing u-drains tank (1953)	9 VAC 5-80-720 A.42		
7/017X	Causticizer	9 VAC 5-80-720 A.42		
9/617D	Causticizer	9 VAC 5-80-720 A.42		
8/739C	Causticizer	9 VAC 5-80-720 A.42		
10/738C	Causticizer	9 VAC 5-80-720 A.42		
HW-CRP1-V016B1	White liquor clarifier (1992)	9 VAC 5-80-720 A.42		
HW-CRP1-V016B2	White liquor and weak wash storage Tanks	9 VAC 5-80-720 A.42		
Chemical Recovery Process Area				
	Salt cake conveying and storage (1977)	9 VAC 5-80-720 A.42		
Co-Product Recovery Process Area				
HW-CT02-V001	Soap Storage tanks (2) (1956)	9 VAC 5-80-720B	VOC HAP	
	Brine storage (pre 1970)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V008	Tall oil storage (pre 1956)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V014	Brine neutralization (1992)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V997	Tall oil settling (1995)	9 VAC 5-80-720B	VOC HAP	

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
Paper Mill Process Area				
	Stenciling of paper Rolls (1980)	9 VAC 5-80-720B	VOC	
Power Generation Process Area				
PWR-02	Ash handling and storage (1980)	9 VAC 5-80-720B	PM ₁₀	
PWR-03	Cooling Tower Tankage (1980)	9 VAC 5-80-720B	VOC	
PWR-06	lube oil tanks (1980)	9 VAC 5-80-720B	VOC	
PWR-07	misc tanks/storage (1980)	9 VAC 5-80-720B	VOC	
Recycled Fiber Process Area				
	Recycled fiber process area (post 1972)	9 VAC 5-80-720B	VOC	
	Hydropulper (pre 1972)	9 VAC 5-80-720B	VOC	
Miscellaneous Processes				
	Diesel Fuel, LP, and kerosene storage	9 VAC 5-80-720B	VOC	
	Used oil storage tanks	9 VAC 5-80-720B	VOC	
	Vehicle Fluids/oil storage tanks	9 VAC 5-80-720B	VOC	
HW-PRD1-F001	Paved road fugitives (not woodyard) (pre-1972)	9 VAC 5-80-720B	PM ₁₀	
HW-WWT1-F001	Wastewater handling (pre-1972)	9 VAC 5-80-720B	VOC	

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

XIII. PERIODIC MONITORING SUMMARY –

Due to the length of this Title V permit and statement of basis, this section will present a table summarizing all periodic monitoring of applicable requirements and a separate emissions limitation demonstration for those requirements that may satisfy periodic monitoring with such a demonstration. Conditions stemming from 40 CFR 63 were promulgated after 1990 and therefore have sufficient monitoring requirements to satisfy periodic monitoring.

Limitation	Parameter	Monitoring	Record Keeping	Reporting	Comments
Facility Wide Applicable Requirements					
#IV.B.1, annual production of air dried tons of pulp not to exceed 450,000	ADTP produced	Monthly production	Monthly throughput, to be summed each consecutive 12 month period (#VII.C.3)	Exceedences to be reported semiannually (#IV.F.6)	
#IV.B.2, permittee must be in compliance with all applicable standards at least 90% of each emission units operating time.	Dependent on standards.	Dependent on standards	Dependent on standard	Exceedences to be reported semiannually (#IV.F.6)	This standard comes from the general portion of the state regulations. Showing compliance is heavily dependent on the periodic monitoring and reporting requirements.
#IV.B.5 Annual emissions limitations from various pieces of equipment	Emissions limitation demonstration, see below	Rated capacity, emission factors, formulas for calculating emissions (#IV.D.6)	Rated capacity, emission factors, formulas for calculating emissions (#IV.D.6)	None (annual emissions reported for inventory and fee purposes)	
#IV.C.4 Zero, span, calibration checks on CEMS for recovery furnace and coal/bark boiler	As described in condition.	Daily, as described in condition	#IV.D.4, must maintain a file of all measurements	#IV.F.1, excess emissions report and summary report forms require this information be submitted when instrument is out of compliance	
Pulp Mill Process Area					
#V.A.1 batch digester system and brown stock washer system opacity limitation					No periodic monitoring necessary since normally 0% opacity. Therefore of little environmental significance.
#V.A.2 Digesters limited to 5 ppm TRS by volume	Lime kiln temp, coal/bark boiler operations, & venting time. (#V.A.3)	T monitoring (#VI.B.2)	Continuous monitoring	Continuous recording, vent to coal/bark boiler only when boiler is operating normally, report venting (#VI.B.2, VI.C.4, VII.C.2)	The facility submitted a federal register preamble. showing that EPA considered the use of a normally operating coal/bark boiler or recovery furnace to be sufficient to meet these requirements without temperature monitoring.
Recausticizing Process Area					
#VI.A.1 recausticizing process area opacity limit	visible emissions observations (VI.B.6)	at least monthly (#VII.B.146)	At least monthly (#VII.B.146)		
#VI.A.2 lime kiln and lime storage silo opacity limit	Lime kiln COMS (VI.B.5) Lime storage silo visible emissions observations (VI.B.6)	Lime kiln continuous (VI.B.5) Lime storage silo at least monthly (#VII.B.146)	Lime storage silo At least monthly (#VII.B.146)		

Limitation	Parameter	Monitoring	Record Keeping	Reporting	Comments
#VI.A.4 Particulate limitations from the slakers and lime kiln	*emissions testing (#VI.D.13) *scrubber flow for the lime kiln and flow and differential pressure for the slakers (#VI.B.57) monitored 1/shift. COMS for the lime kiln	1/shift – slakers COMS– lime kiln	Copy of most recent compliance tests	Semiannually, excursions (#VI.E.23)	
#VI.A.5 lime storage silo particulate limits	Visible emissions observations (#VII.B.146)	at least monthly (#VII.B.146)	at least monthly (#VII.B.146)		
#VI.A.8 Lime kiln TRS standard of 20 ppm	ppm monitored continuously via CEM (#VI.B.1)	continuously via CEM (#VI.B.1)	data capture and validity specified to be 75% for capture, 50% for validity (#VI.B.4). Must record 24 hour average (#VI.C.1)	Semiannual emissions reporting (#VI.E.1)	The regulatory citation for the TRS standard specified that compliance shall be demonstrated by combustion of gases in a lime kiln. However, the reg also specifies a TRS monitor. Since stating compliance is demonstrated by combustion of gases in a lime kiln does not make sense, the monitor will be used for periodic monitoring.
Chemical Recovery Process Area					
#VII.A.41 black liquor storage tank opacity limit					No periodic monitoring necessary since normally 0% opacity, therefore of little environmental significance.
#VII.A.42 black liquor storage tank, heavy black liquor storage tank, soap skimmer, cooling tower opacity limit	visible emissions observations (VII.B.14) on the cooling tower	visible emissions observations (VII.B.14) on the cooling tower	visible emissions observations (VII.B.14) on the cooling tower		No periodic monitoring necessary for the black liquor storage tank, heavy black liquor storage tank, and soap skimmer since normally 0% opacity, therefore of little environmental significance.
#VII.A.4 Emissions estimated from soap skimmer	---	---	Factors, equations used to calculate emissions, as well as rated capacity (#VII.C.53).	---	See emissions limitation demonstration.
#VII.A.6 TRS 5 ppm standard from MEEV.	For lime kiln, T and introduction of gases in flame zone and TRS monitor. For coal/bark boiler, introduction of gases in flame zone.	T monitoring (#VI.B.2), TRS monitoring (#VI.B.1)	Continuous monitoring of temp and TRS from lime kiln; good operation of coal/bark boiler	Continuous recording, vent to coal/bark boiler only when boiler is operating normally, report venting (#VI.B.2, VI.C.4, VII.C.2) and lime kiln excess emissions.	The facility submitted a federal register preamble showing that EPA considered the use of a normally operating coal/bark boiler or recovery furnace to be sufficient to meet these requirements without temperature monitoring.
#VII.A.10, 70.2% black liquor solids content limitation	Solids content monitoring and testing	once per day, while BLS is being fired	Daily records, weekly calculations	Quarterly reporting, #VII.E.3	
#VII.A.11, Particulate from recovery boiler	COMS (#VII.D.1)	COMS (#VII.D.1)	COMS (#VII.D.1)	Once per permit term reporting, (#VII.D.1)	Facility must test (#VII.D.1)
#VII.A.11, SO ₂ from recovery furnace	SO ₂ emissions	1/permit term (#VII.D.1)	1/permit term	Stack test report (#VII.D.1)	Facility must test (#VII.D.1)
#VII.A.11, TRS from recovery	TRS emissions	continuously, CEM	maintain file of all	Semiannually (#VII.E.12),	Facility must test (#VII.D.1) to show

Limitation	Parameter	Monitoring	Record Keeping	Reporting	Comments
furnace		(#VII.B.2) for concentration, and testing (#VII.D.1) for hourly	measurements (#IV.D.4) and 12 hour averages (#VII.C.1) daily	test report	compliance with hourly standard
#VII.A.11, opacity from recovery furnace	COMS (#VII.D.1)	COMS (#VII.D.1)	COMS (#VII.D.1)	Semiannually (#VII.E.12), test report	Subject to the monitoring, record keeping , reporting as applicable to MACT MM
#VII.A.7, CE requirement for ESP	COMS (#VII.D.1)	COMS (#VII.D.1)	COMS (#VII.D.1)	Once per permit term reporting, (#VII.E.3)	
#VII.A.123, CE requirement for wet scrubber on smelt dissolving tank	pressure loss, scrubbing liquor supply pressure, flow rate. (#VII.B.4)	CPMS (#VII.B.4)	CPMS (#VII.B.4)	Once per permit term reporting, (#VII.E.3)	
#VII.A.15, Particulate emissions from smelt dissolving tank	pressure loss, scrubbing liquor supply pressure, flow rate.(#VII.B.4)	CPMS (#VII.B.4)	CPMS (#VII.B.4)	Once per permit term reporting, (#VII.E.3)	testing is required 1/permit term (#VII.D.2)
#VII.A.15, TRS emissions from smelt dissolving tank	continuous monitoring (#VII.B.4)	continuous monitoring (#VII.B.4)	continuous monitoring (#VII.B.4)	Once per permit term reporting, (#VII.E.3)	testing is required 1/permit term (#VII.D.2)
#VII.A.1617, VOC, HAP, TRS control efficiencies from MEEV, temp requirements of incineration.	For lime kiln, T and introduction of gases in flame zone. For coal/bark boiler, introduction of gases in flame zone.	T monitoring (#VI.B.2)	Continuous monitoring	Continuous recording, vent to coal/bark boiler only when boiler is operating normally, report venting (#VI.B.2, VI.C.4, VII.C.2)	The facility submitted a federal register preamble showing that EPA considered the use of a normally operating coal/bark boiler or recovery furnace to be sufficient to meet these requirements without temperature monitoring.
#VII.A.21, MEEV VOC limits	---	---	---	---	See emission limitation demonstration below
Co-Product Recovery Process area					
#VIII.A.31, tall oil batch reactor, turpentine condenser/decanter tank, turpentine storage opacity limit					No periodic monitoring necessary since normally 0% opacity, therefore of little environmental significance.
#VIII.A.3, CE for the tall oil batch reactor vent scrubber	differential pressure	continuously recorded (#VIII.B.1)	keep records for 5 years (#VIII.B.1, # VIII.C.1)	Quarterly reporting of excursions (#VIII.E.1)	
Paper Mill Process area					
#IX.A.1, paper machine, paper machine vacuum pumps, dryer hood, high density storage chests opacity limit					No periodic monitoring necessary since normally 0% opacity, therefore of little environmental significance.
# IX.A.2, wet end fourdrinier, paper machine press section, paper machine mill process area opacity limit					No periodic monitoring necessary since normally 0% opacity, therefore of little environmental significance.
Power Generation Process Area					
#X.A.31, cooling towers opacity limit	visible emissions observations (#X.B.1)	at least monthly (#X.B.1)	at least monthly (#X.B.1)		
#X.A.3, CE for ESP of	COMS				Testing is required for particulate (#X.D.1)

Limitation	Parameter	Monitoring	Record Keeping	Reporting	Comments
coal/bark boiler (99.5%)					
#X.A.6, particulate emissions limitations from coal/bark boiler	COMS (#X.B.2)	COMS (#X.B.2)	COMS (#X.B.2)	Semiannual reporting (#X.E.1)	Testing is required for particulate (#X.D.1)
#X.A.4, S limit on coal	S in coal	records of fuel as received (#X.A.9)	records of fuel as received (#X.A.9)	Semi annual (#X.E.2)	Testing is required for sulfur dioxide (#X.D.1)
#X.A.6, SO ₂ emissions limitations from coal/bark boiler	SO ₂ emissions, ppm via CEM (#X.B.2), audit requirements of CEM (#X.B.5), and testing 1/5 years (#X.D.1)	continuous (#X.B.2) recording, 3 hour averages for compliance of lbs/mmbtu standard, 1/5 years testing for hourly	Keep file of all data measured and reduced (#IV.D.4), test report	Semiannual reporting (#X.E.1)	The CEM will ensure compliance with the lb/mmbtu standard once the system is audited. The testing will ensure compliance with the hourly limit.
#X.A.6, NO _x emissions limitations from coal/bark boiler	NO _x emissions, ppm via CEM (#X.B.2), audit requirements of CEM (#X.B.5), and testing 1/5 years (#X.D.1)	continuous (#X.B.2) recording, 3 hour averages for compliance of lbs/mmbtu standards, 1/5 years testing for hourly	Keep file of all data measured and reduced (#IV.D.4), test report	Semiannual reporting (#X.E.1)	The CEM will ensure compliance with the lb/mmbtu standard once the system is audited. The testing will ensure compliance with the hourly limit.
#X.A.6, opacity emissions limitations from coal/bark boiler	Opacity via COMS (#X.B.2)	continuous (#X.B.2), 6 minute averages used for compliance	Keep file of all data measured and reduced (#IV.D.4)	Semiannual reporting (#X.E.1)	
#X.A.10, 20% opacity from coal equipment	Opacity, Visible Emissions	1 per month #XB1	monthly, of observations #X.C.2	Semiannually, #X.E.2, on monthly observances	
Miscellaneous emission sources					
#XI.A.21, parts cleaners, gasoline storage and dispensing, and fuel oil storage tanks opacity limit					No periodic monitoring necessary since normally 0% opacity, therefore of little environmental significance.
#XI.A.2, 85% control of cold cleaning emissions	operational methods described in #XI.A.3, XI.A.4, XI.A.5, XI.A.6, XI.A.7, and XI.A.8.	monthly, area inspections to check operational methods (#XI.B.1)	monthly, of area inspections (#XI.C.1) and solvent information (#XI.C.2)	semiannually, of noncompliance and training conducted (#XI.D.1)	The 85% is a CTG standard that is an estimate of the control achieved through pollution prevention techniques. There is no way to measure the actual control gained; therefore, periodic monitoring revolves around ensuring that the facility meets the operational standards.

XIV. EMISSION LIMITATIONS DEMONSTRATION

The purpose of this demonstration is to show that the following limitations need no periodic monitoring other than that which already exists in the permit and record keeping of emission factors and equations for emission calculations. These limitations are contained in Conditions B.5 under the Facility Wide Applicable Requirements, A.4 and A.21 under the Chemical Recovery Process Area.

Condition B.5 under the Facility Wide Applicable Requirements, Emissions from the operation of each piece of equipment listed below shall not exceed the limitations specified below:

	Particulate <u>TSP/PM₁₀</u>	Nitrogen Oxides <u>NO_x</u>	Sulfur Dioxide <u>SO₂</u>	<u>Total Reduced</u> <u>Sulfur</u> <u>TRS</u>	<u>Volatile Organic</u> <u>Compounds</u> <u>VOC</u>	<u>Carbon Monoxide</u> <u>CO</u>
Coal/Bark boiler HW-PSG2-S022	318.9 tpy	2,190.0 tpy	3801.8 tpy			
Coal/Bark boiler (non-condensable gas thermal oxidation)		1.4 tpy	22.2 tpy	0.1 tpy	8.0 tpy	14.2 tpy
Black liquor recovery boiler HW-PSG4-S013	300.9 tpy		2,768.2 tpy	21.0 tpy		
Smelt dissolving tank HW-PSG4-S018	54.8 tpy			4.8 tpy		
MEEV/Crystallizer HW-PSG4-S999					3.5 tpy	
Soap Skimmer HW-				0.4 tpy	0.4 tpy	
Induced draft cooling tower HW-PSB3-F	8.8 tpy					

(9 VAC 5-80-110, 9 VAC 5-50-260, and Condition #21 of 06/05/2000 permit)

Coal/Bark Boiler: The annual emissions are calculated based on maximum hourly emissions and 8,760 hours per year. The hourly emissions are monitored via testing (Condition D.1 under the Power Generation Process Area).

Formula: maximum allowed lbs/hr * 8760 hours/year * 1 ton/2000 lbs = annual tons allowed

PT maximum annual emissions: 72.8 lbs/hr * 8760 hours/year * 1 ton/2000 lbs = 318.8 tpy

SO₂ maximum annual emissions: 868 lbs/hr * 8760 hours/yr * 1 ton/2000 lbs = 3801.8 tpy

NO_x maximum annual emissions: 500 lbs/hr * 8760 hours/yr * 1 ton/2000 lbs = 2190 tpy

Black Liquor Recovery Furnace: The annual emissions are calculated based on maximum hourly emissions and 8,760 hours per year. The hourly emissions are monitored via testing (Condition D.1 under the Chemical Recovery Process Area).

PM maximum annual emissions: 68.7 lbs/hr * 8760 hours/year * 1 ton/2000 lbs = 300.9 tpy

SO₂ maximum annual emissions: 632 lbs/hr * 8760 hours/year * 1 ton/2000 lbs = 2768.2 tpy

TRS maximum annual emission: 4.8 lbs/hr * 8760 hours/year * 1 ton/2000 lbs = 21.0 tpy

Smelt Dissolving Tank: The annual emissions are calculated based on maximum hourly emissions and 8,760 hours per year. The hourly emissions are monitored via testing (Condition D.2 under the Chemical Recovery Process Area).

PM maximum annual emissions: $12.5 \text{ lbs/hr} * 8760 \text{ hours/year} * 1 \text{ ton}/2000 \text{ lbs} = 54.8 \text{ tpy}$

TRS maximum annual emission: $1.1 \text{ lbs/hr} * 8760 \text{ hours/year} * 1 \text{ ton}/2000 \text{ lbs} = 4.8 \text{ tpy}$

MEEV: The emissions from the MEEV can only be estimated based on emission factors and test data since the NCG's from the MEEV are mingled with NCG's from other equipment prior to incineration in the lime kiln and coal/bark boiler. While it is possible to estimate the amount of VOC and TRS generated by the NCG's coming from the MEEV, it would not be possible to directly determine the amount of the VOC and TRS from the MEEV that has been destroyed by the incineration devices since any measurement at the outlet of the incineration devices would contain uncombusted VOC and TRS that originated from other sources. The controlled emissions from the MEEV were estimated in the July 29, 1999 permit by assuming an incineration control efficiency of 98% for VOC. This standard has periodic monitoring that uses temperature monitoring of the lime kiln and introduction of the NCG's in the flame zone of both the lime kiln and the combination boiler. This monitoring is described in the above chart. The July 29, 1999, permit relied on test data submitted by the source on uncontrolled quantities of VOC from the MEEV. This test data seemed to correspond well with NCASI emission factors for similar sources. The permit analysis showed that a safety factor of 1.15 was applied to the test data to ensure a conservative approach. Also, the calculation relied upon the maximum amount of pulp produced, which is monitored monthly via record keeping. The hourly is based upon maximum capacity of 52.5 ODTP/hour (58.3 ADTP/hr). The June 5, 2000 permit was amended to reflect the worse case VOC emissions as that of pinene with the molecular weight of 136 lbs/lb-moles. This emissions demonstration also shows the monitoring required for the limitations in Condition A.21 under the Chemical Recovery Process Area, which states:

21. Emissions from the operation of the multiple effect evaporator system and crystallizer concentrator system shall not exceed the limitations specified below:

VOCs as determined by Reference Method 25 or alternative method approved by DEQ:

0.8 lbs/bone dry ton of pulp

0.8 lbs/hour

9 VAC 5-80-110, 9 VAC 5-50-260, #19 of 6/5/2000 permit

Formula: $\text{Emission Factor} * 1.15 * (1 - \text{Control Efficiency}) * \text{ODTP/year} * 1 \text{ yr}/8640 \text{ hrs} = \text{hrly emissions}$
 $\text{Emission Factor} * 1.15 * (1 - \text{Control Efficiency}) * \text{ODTP/year} * 1 \text{ ton}/2000 \text{ lbs} = \text{annual emissions}$

VOC: $0.058 \text{ lbs/ODTP} * 1.15 * (1 - .98) * 52.5 \text{ ODTP/hour} = 0.07 \text{ lbs/hr VOC}$

$0.07 \text{ lbs VOC/hr} * 136/12 = 0.8 \text{ lbs VOC/hr}$

$0.8 \text{ lbs VOC/hr} * 8760/\text{yr} * 1 \text{ ton}/2000 \text{ lbs} = 3.5 \text{ tpy VOC}$

Ensuring that the control efficiencies of the lime kiln or coal/bark boiler are at least 99% and 98% respectively for TRS and VOC will ensure that the emissions of the MEEV are negligible and no other periodic monitoring other than maintaining the emission factor and formula should be necessary for ensuring compliance with these conditions.

Soap Skimmer: The emission factors for determining VOC and TRS emissions from the soap skimmer came from NCASI estimates, and were used in the facility's RACT document. These emission factors, coupled with the hourly maximum capacity of the facility (58.3 ADTP/hr), provide an acceptable mechanism for periodic monitoring, provided that the facility keep on hand records of these emission factors and the equations used to calculate emissions. This information will also suffice for periodic monitoring for Condition A.4 under the Chemical Recovery Process Area, which states:

4. The following emissions are estimated from the operation of the soap skimmer:

Volatile Organic Compounds 0.10 lbs/hr
Total Reduced Sulfur 0.09 lbs/hr
9 VAC 5-80-110, 9 VAC 5-50-260, #20 of 6/5/2000 permit

Formula: Emission Factor * hourly production = hourly emissions
Emission Factor * annual production * 1 ton/2000 lbs = annual emissions

VOC: 0.0018 lbs VOC/ADTP * 58.3 ADTP/hr = 0.1 lbs VOC/hr
0.0018 lbs VOC/ADTP * 450000 ADTP/yr * 1/2000=0.39 tpy

TRS: 0.0016 lbs TRS/ADTP * 58.3 ADTP/hr = 0.094 lbs TRS/hr
0.0016 lbs TRS * 450000 ADTP/yr * 1/2000 = 0.36 tpy

Cooling Tower: Cooling tower emissions were calculated based on Chapter 13.4 of AP-42 and using city water total dissolved solids information, which shows a total dissolved solids of approximately 823 ppm. All particulate is assumed to be PM₁₀. The cooling tower is rated at 24000 gallons per minute of circulation. The emissions demonstration, coupled with the requirement to keep records of the emission factor in AP-42, the TDS in the city water, and the formula, will suffice for periodic monitoring (Condition C.3.g under the Chemical Recovery Area).

Formula: liquid drift (by AP-42=1.7 lbs/kgal)*TDS content*circulation rate*60 min/hr=hrly emissions
hourly emissions*8760 hrs/yr*1 ton/2000 lbs=annual emissions

PM₁₀ : 1.7 lbs/kgal*823/10⁶*24kgals/min*60min/hr=2.0 lbs PM₁₀ /hr
2.0 lbs PM₁₀ /hr*8760 hr/yr*1ton/2000 lbs=8.8 tpy PM₁₀

XV. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements that have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description
40 CFR 63.8	Monitoring Requirements	This section of the general provisions of the MACT standards is not applicable to this facility since the continuous monitoring systems required by Subpart S do not currently have performance specifications promulgated for them. This exclusion is listed in 40 CFR 63.8(a)(2).
9 VAC 5 Chapter 40 Part II Article 17	Emission Standards for Woodworking Operations	This standard is not applicable to the wood yard operations (WY-01 and WY-02) since this standard typically does not apply to green wood.
40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels.	The facility does not have any storage tanks that are applicable to this standard.
40 CFR 60, Subpart BB	Standards of Performance for Kraft Pulp Mills	This new source performance standard does not apply to the 12 batch digesters (HW-PUM2-V037), the brown stock washer (HW-PUM1-A030), and the lime kiln (HW-CRP2-S022) since this equipment was built prior to the applicable construction date of

		the regulation (September 24, 1976).
40 CFR 60, Subpart Da	Standards of performance for Electric Utility Steam Generating Units	This standard is not applicable to the coal/bark boiler (HW-PSG2-S022) because the facility is not an electric utility.
40 CFR 63, Subpart T	National Emission Standards for Halogenated Solvent Cleaning	This standard does not apply to the batch cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) since they do not use halogenated solvents.
40 CFR 60, Subpart HH	Standards of Performance for Lime Manufacturing Plants	As provided in 60.340(b), the provisions of this subpart are not applicable to facilities used in the manufacture of lime at kraft pulp mills.
9 VAC 5-40-5220 F	Stage II Vapor Recovery Systems	This section of the regulations does not apply to the gasoline dispensing pump at the facility since the average monthly throughput is less than 10,000 gallons. This exemption is listed in 9 VAC 5-40-5220 F.4.a.
9 VAC 5 Chapter 40 Part II Article 13	Emission Standards for Kraft Pulp Mills	This standard does not apply to the recovery furnace (HW-PSG4-S013), the MEEV (HW-PSG4-S999A), and the smelt dissolving tank (HW-PSG4-S018) since this equipment is subject to new source performance standards and Chapter 50 of the regulations. This exemption is listed in 9 VAC 5-40-1660 C.
40 CFR 60.283(a)(4)	Standard for TRS from Smelt Dissolving Tanks	This standard does not apply (0.033 lb/ton black liquor solids as H ₂ S) since the PSD permit applied the more stringent standard of 0.0168 lbs/ton black liquor solids. Therefore, the standard in 60.283 has been streamlined.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

XVI. General Conditions

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

XVII. State Only Applicable Requirements – None identified.

XVIII. Future Applicable Requirements – the facility is subject to a MACT standard, Subpart DDDDD for Industrial, Commercial, and Institutional Boilers and Process Heaters.

XIX. Compliance Plan – N/A

XX. Confidential Information – No claims of confidentiality were made.

XXI. Public Participation

The proposed permit will be placed on public notice in the Richmond Times Dispatch from May 29, 2005 to June 28, 2005. All public comments were addressed in a letter dated July 14, 2005.